

Attachment A: Flow Frequency Memorandum

## MEMORANDUM

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
Piedmont Regional Office  
4949-A Cox Road Glen Allen, Virginia 23060**

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**SUBJECT:** Flow Frequency Determination / 303(d) Status  
Town of Surry STP – VA0061646

**TO:** Janine Howard

**FROM:** Jennifer Palmore, P.G.

**DATE:** December 27, 2010

The Town of Surry's sewage treatment plant discharges to an unnamed tributary of Dark Swamp in Surry, VA. The outfall is located at rivermile 2-XBA000.27 (note: this is a revised rivermile, however the location has not changed). Stream flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

At the discharge point, the receiving stream is shown to be an intermittent stream on the USGS Surry 7 1/2' Quadrangle topographic map. The flow frequencies for intermittent streams are shown below.

**Outfall 001:**

1Q30 = 0.0 MGD	High Flow 1Q10 = 0.0 MGD
1Q10 = 0.0 MGD	High Flow 7Q10 = 0.0 MGD
7Q10 = 0.0 MGD	High Flow 30Q10 = 0.0 MGD
30Q10 = 0.0 MGD	HM = 0.0 MGD
30Q5 = 0.0 MGD	

The unnamed tributary was assessed as a Category 2B water during the draft 2010 305(b)/303(d) Water Quality Assessment ("Waters are of concern to the state but no Water Quality Standard exists for a specific pollutant, or the water exceeds a state screening value or toxicity test.") The Fish Consumption Use is fully supporting with observed effects due to the VDH fish consumption advisory for kepone. The other designated uses were not assessed.

Due to its intermittent nature, the receiving stream is considered a Tier 1 water. Effluent data should be used to characterize the stream during low flow conditions.

If you have any questions concerning this analysis, please let me know.

## Attachment B: Plant Flow Diagram

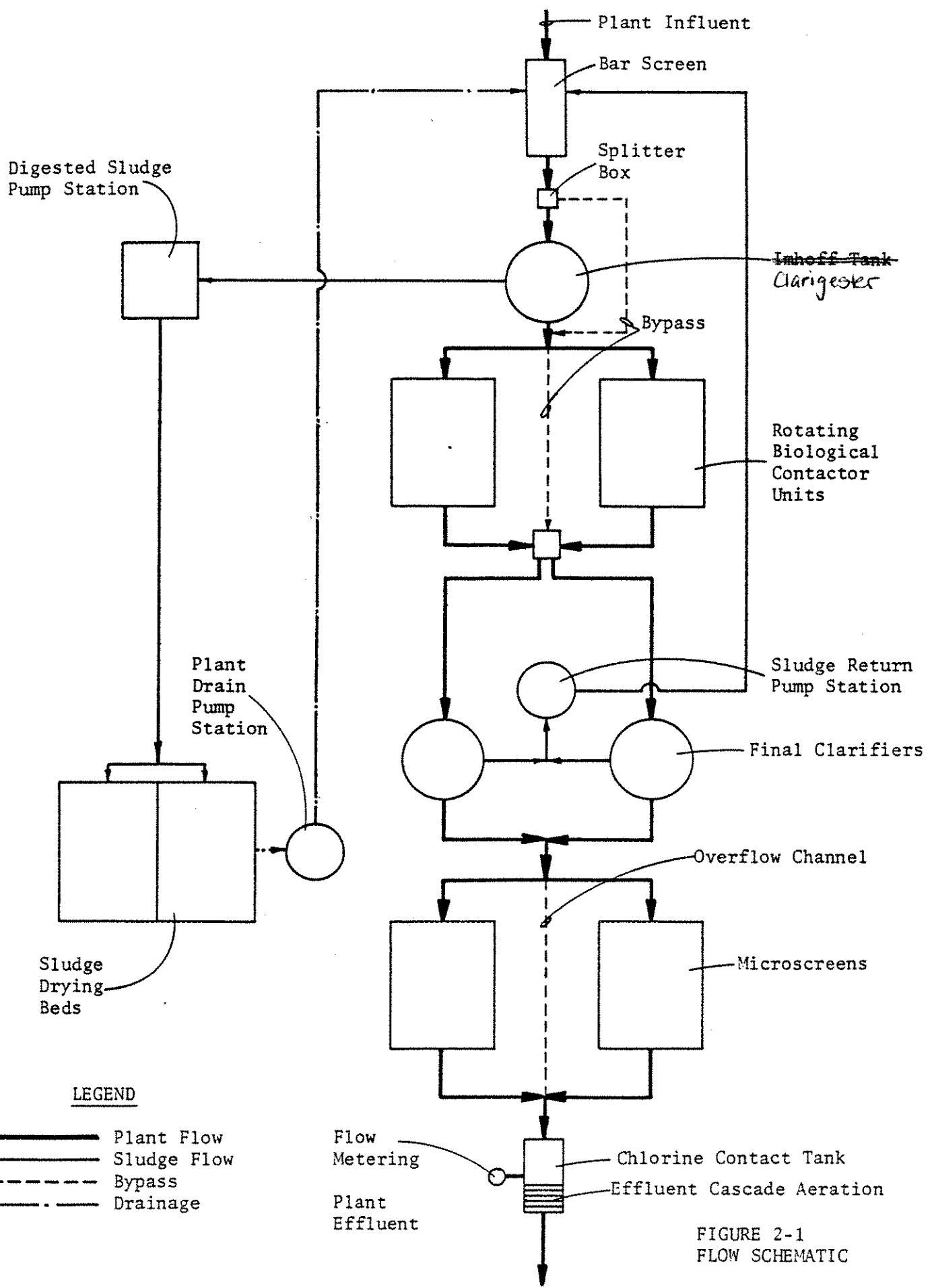
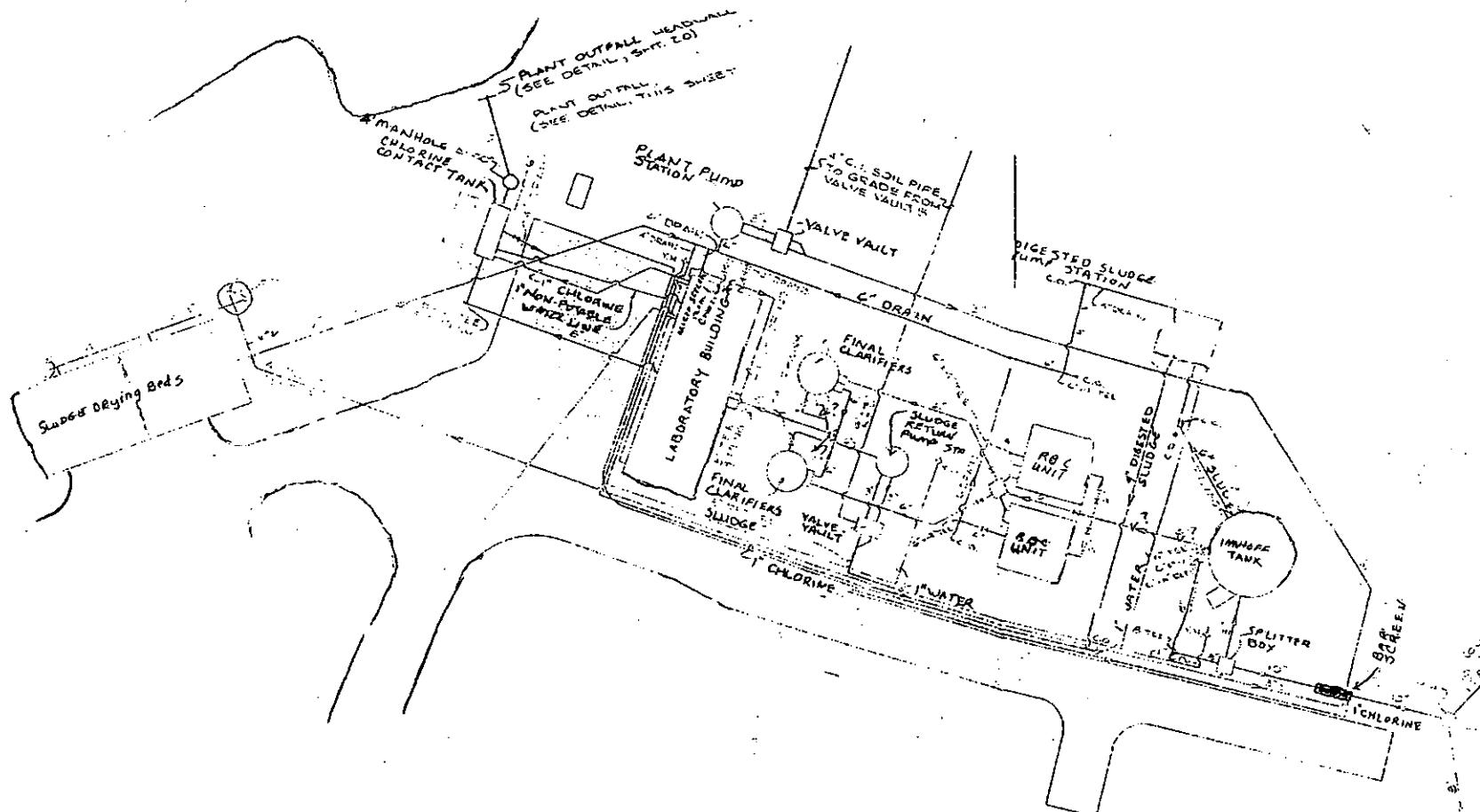


FIGURE 2-1  
FLOW SCHEMATIC

Town of Surry, Inc.  
Wastewater Treatment Plant  
11463 Rolfe Hwy  
SURRY, VA. 23883



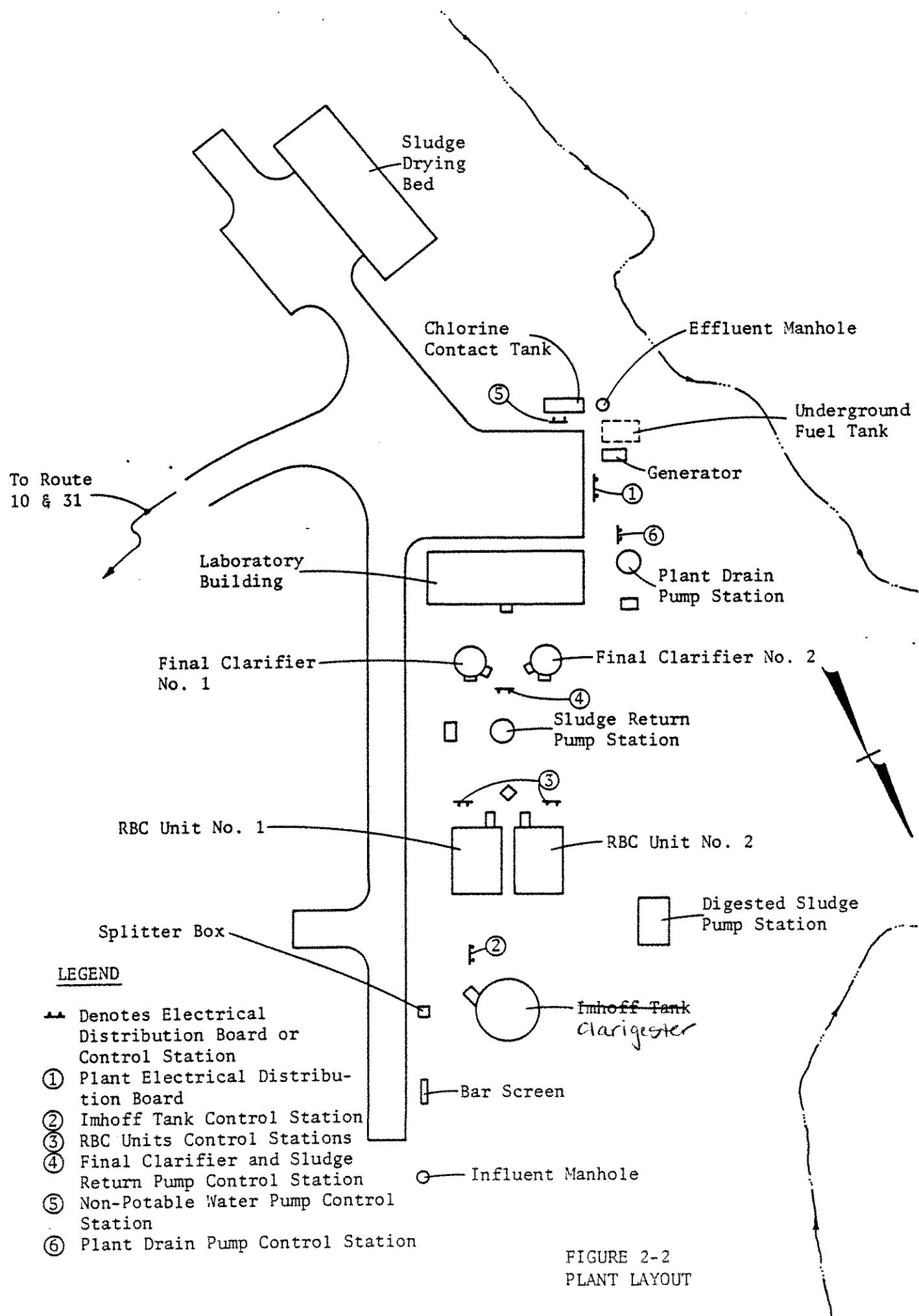
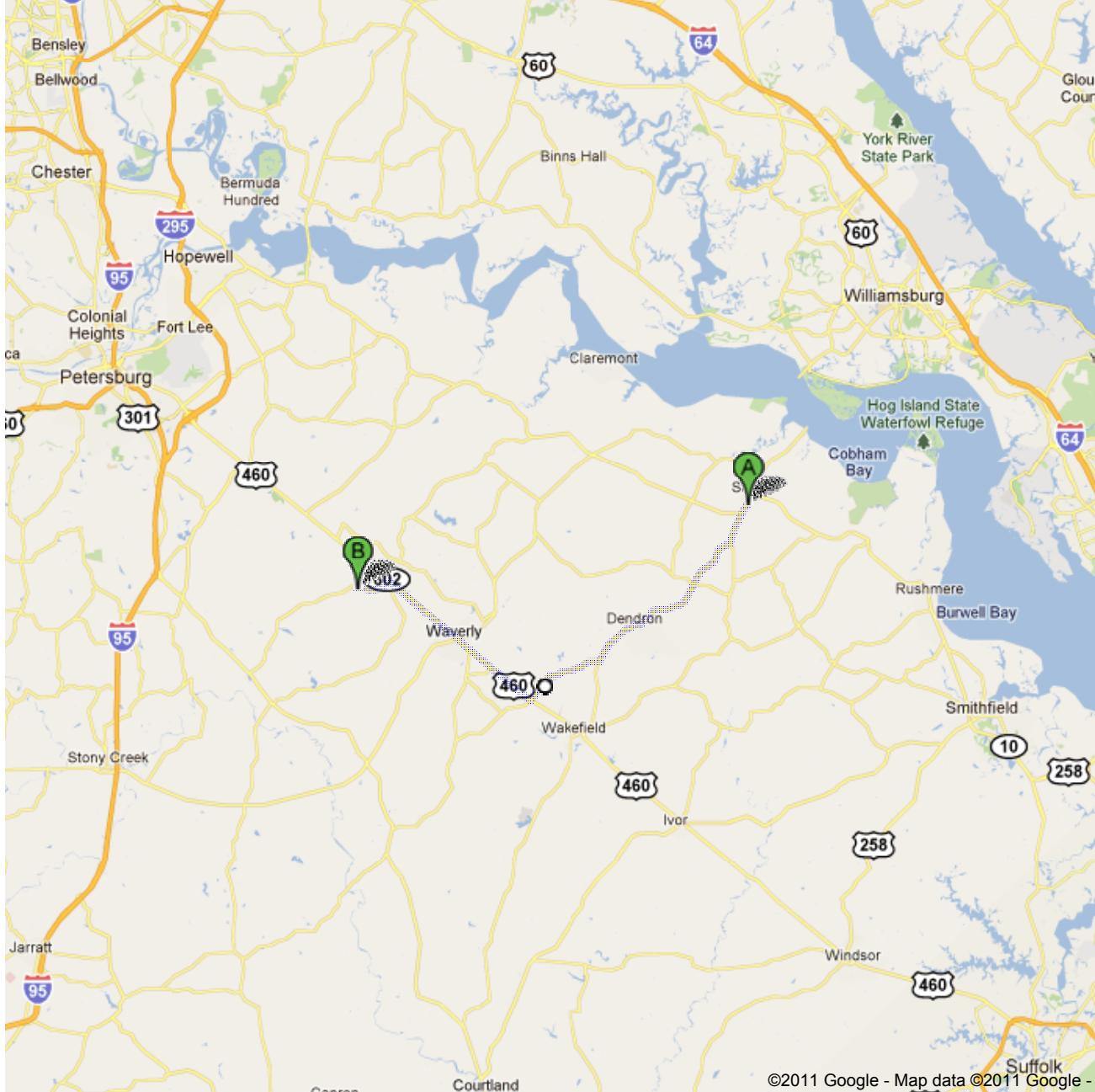


FIGURE 2-2  
PLANT LAYOUT

## Attachment C: Sludge Haul Route



Directions to 3474 Atlantic Ln, Waverly, VA  
23890  
26.5 mi – about 39 mins



©2011 Google - Map data ©2011 Google -

A 11463 Rolfe Hwy, Surry, VA 23846

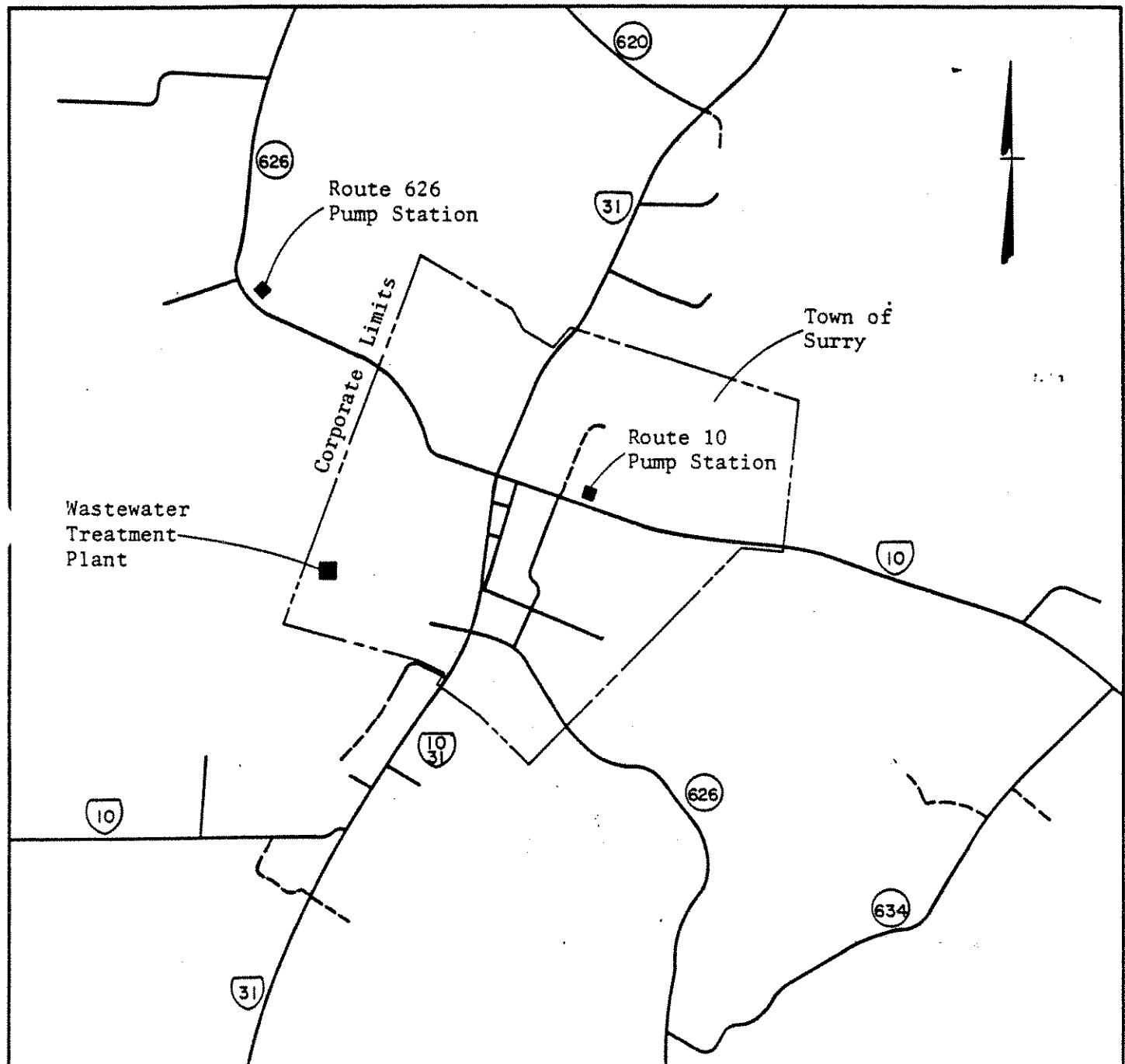
- 31 1. Head **southwest** on **VA-10 W/VA-31 S** toward **Connie Dr**  
Continue to follow VA-31 S  
About 14 mins      go 11.3 mi  
total 11.3 mi
2. Turn right onto **Owens Grove Rd/State Route 604**  
About 6 mins      go 4.1 mi  
total 15.4 mi
- 460 3. Turn right onto **US-460 W/S County Dr**  
Continue to follow US-460 W  
About 15 mins      go 9.1 mi  
total 24.5 mi
- 602 4. Turn left onto **VA-602/Cabin Point Rd**  
About 3 mins      go 1.8 mi  
total 26.3 mi
5. Turn left onto **Atlantic Ln**  
Destination will be on the right  
About 1 min      go 0.1 mi  
total 26.5 mi

B 3474 Atlantic Ln, Waverly, VA 23890

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Map data ©2011 Google

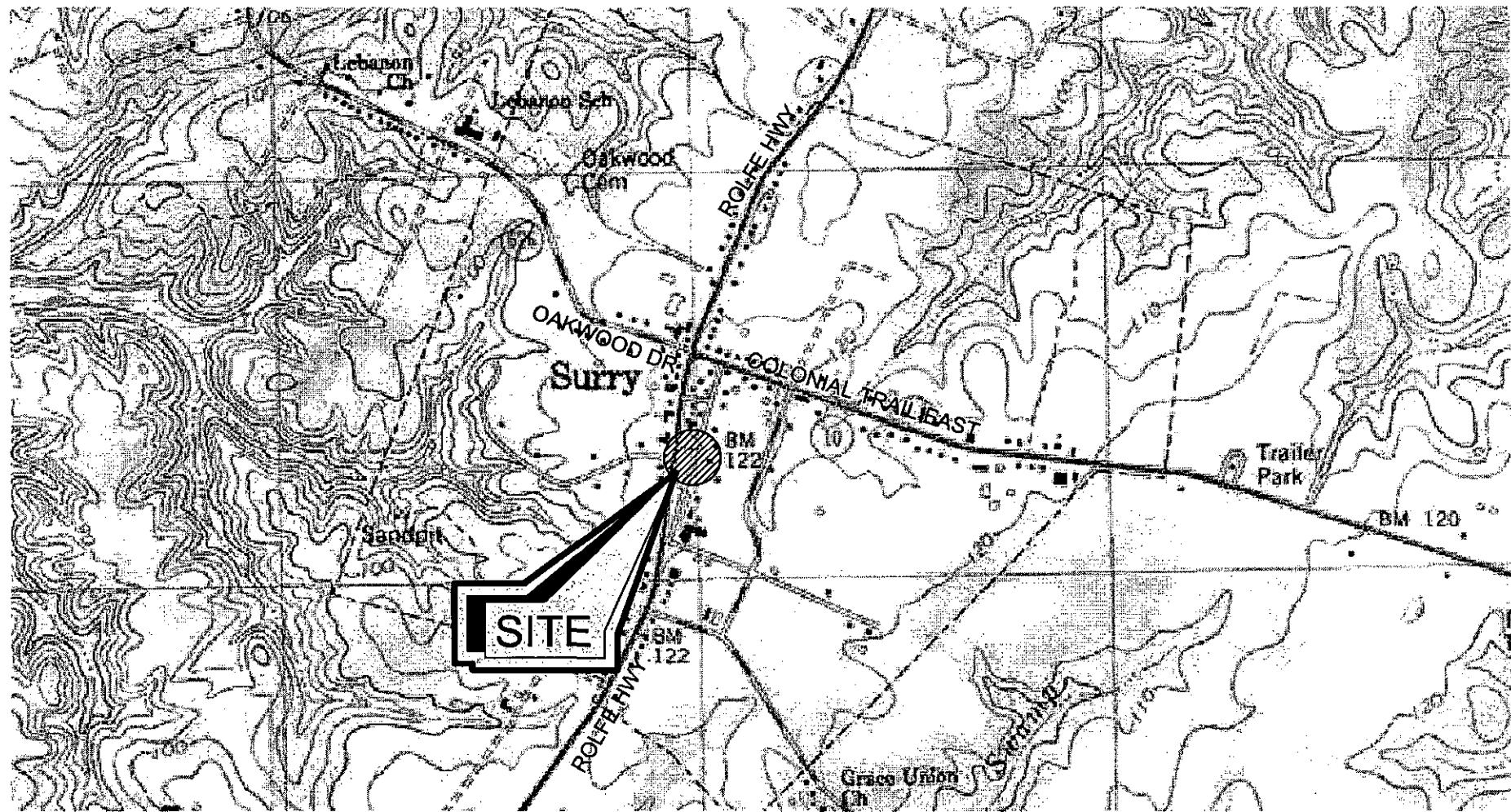
Directions weren't right? Please find your route on [maps.google.com](http://maps.google.com) and click "Report a problem" at the bottom left.



Note: There are no wells or springs within  $\frac{1}{4}$  mile of the Plant.

FIGURE 1-1  
LOCATION MAP

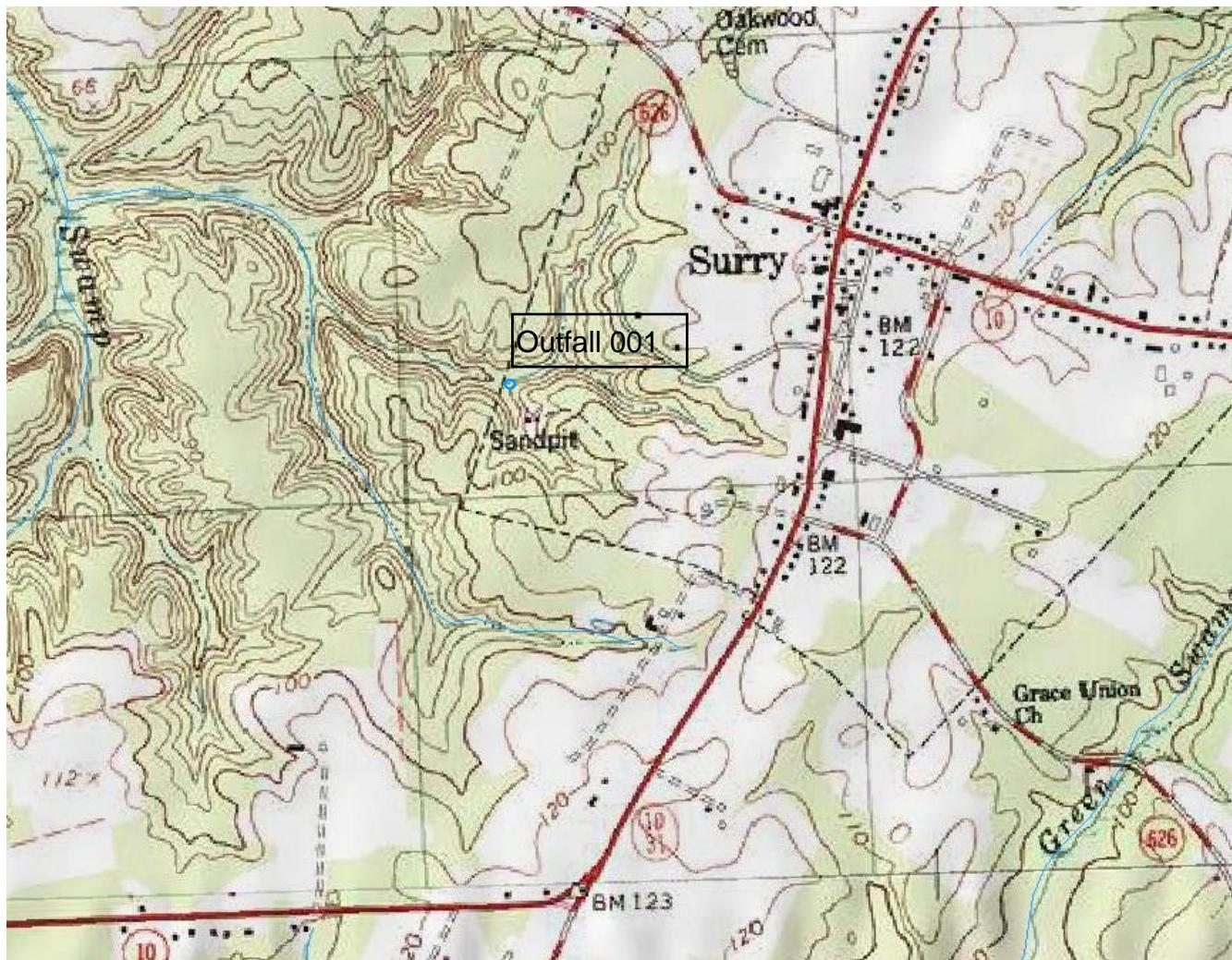
# Town of Surry STP



## Vicinity Map

SCALE: 1" = 2000'

Attachment D: Topographic Map (Surry Quadrangle 67A) and  
Aerial Image





## Attachment E: Site Inspection Report

# MEMORANDUM

## DEPARTMENT OF ENVIRONMENTAL QUALITY *Piedmont Regional Office*

4949-A Cox Rd Glen Allen, VA 23060

(804) 527-5020

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SUBJECT: Site Visit- VA0061646- Town of Surry Wastewater Treatment Facility

TO: File

FROM: Janine Howard, PRO Permit Writer

DATE: 12 April 2011

On March 3, 2011 at 10:30 am Frank Lupini (DEQ- Enforcement), Charles Stitzer (DEQ- Inspector), and I met with the Town of Surry to discuss ongoing compliance issues and violations of the presently active Consent Order issued to the Town of Surry Wastewater Treatment Facility. The Town Mayor, Will Gwaltney, the town's engineer, Darrel Rickmond, P.E., the treatment plant operator, Robert Finch, and William Roach, a town board member, were present. The purpose of the meeting was to discuss ongoing violations of the permit and Consent Order with regard to total recoverable copper, TKN, and cBOD<sub>5</sub>, in addition to inflow and infiltration (I & I) issues and excessively high flows. The need for long-deferred maintenance to the plant was discussed in addition to sewer rate adjustments that are necessary to generate revenue to support the needed renovation/maintenance of the plant. The Town believes that an expansion in the design flow of the treatment plant is not necessary and that efforts to bring I & I under control are anticipated to effectively deal with the chronic excessive flows that the plant has been experiencing throughout the 2006-2011 permit term.

Following the compliance meeting, the DEQ representatives were accompanied by Robert Finch to inspect the wastewater treatment plant. Each component of the process was inspected, beginning with the headworks (see Figure 1, bar screen) through to the outfall. The clarigester (Figure 2) appeared to be in working order and the Rotating Biological Contactors (RBCs) (Figure 3) were operational with a healthy biomass (slime) on the disks. As noted in Charlie Stitzer's 2008 inspection, small amounts of rising solids were still noticeable in the clarifiers (Figure 4). The microscreen was running on the day of the visit (Figure 5). Robert Finch indicated that the automatic on/off cycling controls no longer work and the microscreen must be manually turned on and off. The gas chlorination system was operational. There were some solids visible in the chlorine contact tank and the effluent in the contact tank appeared slightly cloudy (Figure 6 and 7). The facility has not reported TSS concentrations in violation of the permit limitation (10 mg/l). The issue of solids in the chlorine contact tank has been previously raised in Charlie's inspection reports. The tablet dechlorinator was fully stocked (Figure 8). The effluent leaving the chlorine contact tanks and flowing down the step aerator appeared slightly cloudy (Figure 9). The receiving stream appeared to have a very low flow prior to the outfall, with the effluent comprising the majority of the instream flow downstream of the outfall. The sludge drying beds were in use and no objectionable odors were detected (Figure 10). The grounds appeared well kept and the laboratory room was organized and clean. The aging plant and buildings are in need of general maintenance and upgrades to the plant are necessary to bring the plant in to long-term and sustained permit compliance.



Figure 1. Bar screen



Figure 2. Clarigester



Figure 3. RBC



Figure 4. Clarifier



Figure 5. Microscreen



Figure 6. Chlorine contact tank (front end)



Figure 7. Chlorine contact tank



Figure 8. Tablet Dechlorinator



Figure 9. Step Aerator



Figure 10. Sludge Drying Beds

# VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Piedmont Regional Office

## UNSCHEDULED INSPECTION REPORT

FACILITY NAME:	Town of Surry WWTP	INSPECTOR:	Charles Stitzer
PERMIT No.:	VA0061646	INSPECTION DATE:	August 7, 2008
TYPE OF FACILITY:	Municipal Minor	TIME OF INSPECTION:	Approximately 3pm
COUNTY/CITY:	Town of Surry	REPORT COMPLETED:	September 3, 2008
REVIEWED BY:		UNANNOUNCED INSPECTION:	Yes
PRESENT DURING INSPECTION:	Robert Smallwood		

### ***INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS***

After inspecting S. Wallace Edwards (VPA00522) I took the opportunity to visit the Town of Surry's WWTP which is in the near vicinity. Also, the two facilities share a pH meter, so to complete the S. Wallace Edwards inspection, I needed to see the pH meter which is stored at the Surry WWTP.

After I checked the pH meter (it was in good working order and its thermister check date was written on the meter), I did a quick walk around the Surry WWTP. The grounds were neatly groomed and the plant was in good order.

The clarigester had a solid cap of floating solids in its center well (normal) and its effluent was cloudy (normal).

The RBCs were in operation and had a healthy, properly distributed zoogleal mass on its disks.

The discharge over the clarifier's weirs was clear with a small amount of rising solids (less than noted at previous inspections).

The microscreen in the control building was not running (not required for adequate treatment).

The gas chlorinator was working and the tablet de-chlorinators were fully stocked.

The CCT appeared to have some solids on its bottom. The plant's effluent was clear and did not appear to be negatively effected by the small amount of solids that were washing through the plant. I suspect that most of the rising solids from the clarifier pass through to and settle in the CCT. The solids that pass through the CCT and discharge to the stream are apparently not enough to violate the VPDES permit's TSS limitations. However, this type of digested sludge solids, even in very small amounts, tends to eventually settle in slow moving parts of the receiving stream. This is not acceptable. If the clarifier's rising solids condition continues, it will ultimately result in the CCT acting as a final clarifier. This will require frequent pumping of the CCT and will result in excessive Cl<sub>2</sub> use due to the chlorine demand of the settled solids. In addition, if solids are determined to be collecting downstream, corrective actions, possibly including restoration of the streambed, could be mandated by the DEQ.

All three sludge drying beds were in use and were covered in a good quality, almost dried sludge. There were no objectionable odors.

Although I did not perform a thorough lab evaluation, I found the lab to be neat and clean. All daily recorded data was up-to-date on the bench sheets. A quick glance at the bench sheets indicated that the plant was operating normally and consistently. The lab analysis equipment all appeared to be in good working condition and temperature dependant equipment all were marked with the date they were last certified. All certifications were less than one year old.

***EFFLUENT and FIELD DATA: NOT OBTAINED***

<b>Flow</b>	<b>MGD</b>	<b>Dissolved Oxygen</b>	<b>mg/L</b>	<b>Contact Chlorine Residual</b>	<b>mg/L</b>
<b>pH</b>	<b>SU</b>	<b>Final Chlorine Res.</b>	<b>mg/L</b>	<b>Temperature</b>	<b>°C</b>
<b>Calibration Time/Initials/documentation:</b>					
<b>Condition of Outfall and Receiving Stream:</b>		<u>Good in the immediate area of the discharge where the stream velocity is swift, however, I suspect that there may be some accumulated solids in the stream bed where the stream velocity falls off.</u>			

***COMMENTS:***

Items evaluated during this inspection include (check all that apply):

- |                        |  |
|------------------------|--|
| [x] Yes [ ] No         | Operational Units                                |
| [ ] Yes [x] No         | O & M Manual                                     |
| [ ] Yes [x] No         | Maintenance Records                              |
| [ ] Yes [ ] No [x] N/A | Pathogen Reduction & Vector Attraction Reduction |
| [ ] Yes [x] No [ ] N/A | Sludge Disposal Plan                             |
| [ ] Yes [ ] No [x] N/A | Groundwater Monitoring Plan                      |
| [ ] Yes [ ] No [x] N/A | Storm Water Pollution Prevention Plan            |
| [ ] Yes [x] No [ ] N/A | Permit Special Conditions                        |
| [ ] Yes [x] No [ ] N/A | Permit Water Quality Chemical Monitoring         |
| [ ] Yes [x] No [ ] N/A | Laboratory Records (cursory review, only)        |

***GENERAL RECOMMENDATIONS:***

1. Pump solids from clarifiers a bit more often to try to alleviate rising solids (or try “pushing down” sides of the clarifiers with a squeegee to dislodge old sludge which may be clinging there).
2. Frequently check CCT for accumulation of solids. Pump out accumulated sludge as necessary.
3. Check receiving stream bed downstream to insure that solids are not accumulating in slow moving sections of the stream.

***COMPLIANCE RECOMMENDATIONS/REQUEST FOR CORRECTIVE ACTION:***

1. None

**Copies:**

DEQ – Water Compliance Files RR/L

Attachment F: Water Quality Criteria Monitoring Data, DMR Data

**ATTACHMENT A**  
**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
**WATER QUALITY CRITERIA MONITORING**

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
<b>METALS</b>						
7440-36-0	Antimony, dissolved	(3)	1.4	<QL	G or C	1/5 YR
7440-38-2	Arsenic, dissolved	(3)	1.0	2 µg/L	G or C	1/5 YR
7440-43-9	Cadmium, dissolved	(3)	0.3	0.2 µg/L	G or C	1/5 YR
16065-83-1	Chromium III, dissolved <sup>(8)</sup>	(3)	3.6	<QL	G or C	1/5 YR
18540-29-9	Chromium VI, dissolved <sup>(8)</sup>	(3)	1.6	< 3 µg/L	G or C	1/5 YR
7440-50-8	Copper, dissolved	(3)	0.50	5.8 µg/L	G or C	1/5 YR
7439-92-1	Lead, dissolved	(3)	0.50	0.80 µg/L	G or C	1/5 YR
7439-97-6	Mercury, dissolved	(3)	1.0	<QL	G or C	1/5 YR
7440-02-0	Nickel, dissolved	(3)	0.94	1.7 µg/L	G or C	1/5 YR
7782-49-2	Selenium, Total Recoverable	(3)	2.0	<QL	G or C	1/5 YR
7440-22-4	Silver, dissolved	(3)	0.20	<QL	G or C	1/5 YR
7440-28-0	Thallium, dissolved	(4)	(5)	< 5 µg/L	G or C	1/5 YR
7440-66-6	Zinc, dissolved	(3)	3.6	21 µg/L	G or C	1/5 YR
<b>PESTICIDES/PCB'S</b>						
309-00-2	Aldrin	608	0.05	<QL	G or C	1/5 YR
57-74-9	Chlordane	608	0.2	<QL	G or C	1/5 YR
2921-88-2	Chlorpyrifos (synonym = Dursban)	(4)	(5)	<QL	G or C	1/5 YR
72-54-8	DDD	608	0.1	<QL	G or C	1/5 YR
72-55-9	DDE	608	0.1	<QL	G or C	1/5 YR
50-29-3	DDT	608	0.1	<QL	G or C	1/5 YR
8065-48-3	Demeton	(4)	(5)	< 1.0	G or C	1/5 YR
333-41-5	Diazinon	(4)	(5)	< 1.0	G or C	1/5 YR
60-57-1	Dieldrin	608	0.1	<QL	G or C	1/5 YR
959-98-8	Alpha-Endosulfan	608	0.1	<QL	G or C	1/5 YR
33213-65-9	Beta-Endosulfan	608	0.1	<QL	G or C	1/5 YR
1031-07-8	Endosulfan Sulfate	608	0.1	<QL	G or C	1/5 YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
72-20-8	Endrin	608	0.1	<QL	G or C	1/5 YR
7421-93-4	Endrin Aldehyde	(4)	(5)	< 0.05 µg/L	G or C	1/5 YR
86-50-0	Guthion	(4)	(5)	< 1.0 µg/L	G or C	1/5 YR
76-44-8	Heptachlor	608	0.05	<QL	G or C	1/5 YR
1024-57-3	Heptachlor Epoxide	(4)	(5)	< 0.05 µg/L	G or C	1/5 YR
319-84-6	Hexachlorocyclohexane Alpha-BHC	608	(5)	<0.05 µg/L	G or C	1/5 YR
319-85-7	Hexachlorocyclohexane Beta-BHC	608	(5)	< 0.05 µg/L	G or C	1/5 YR
58-89-9	Hexachlorocyclohexane Gamma-BHC or Lindane	608	(5)	< 0.05 µg/L	G or C	1/5 YR
143-50-0	Kepone	(9)	(5)	< 5 µg/L	G or C	1/5 YR
121-75-5	Malathion	(4)	(5)	< 1.0 µg/L	G or C	1/5 YR
72-43-5	Methoxychlor	(4)	(5)	< 0.05 µg/L	G or C	1/5 YR
2385-85-5	Mirex	(4)	(5)	< 0.05 µg/L	G or C	1/5 YR
56-38-2	Parathion	(4)	(5)	<1.0 µg/L	G or C	1/5 YR
1336-36-3	PCB Total	608	7.0	<QL	G or C	1/5 YR
8001-35-2	Toxaphene	608	5.0	< 0.05 µg/L	G or C	1/5 YR

### BASE NEUTRAL EXTRACTABLES

83-32-9	Acenaphthene	625	10.0	<QL	G or C	1/5 YR
120-12-7	Anthracene	625	10.0	<QL	G or C	1/5 YR
92-87-5	Benzidine	(4)	(5)	< 5 µg/L	G or C	1/5 YR
56-55-3	Benzo (a) anthracene	625	10.0	<QL	G or C	1/5 YR
205-99-2	Benzo (b) fluoranthene	625	10.0	<QL	G or C	1/5 YR
207-08-9	Benzo (k) fluoranthene	625	10.0	< QL	G or C	1/5 YR
50-32-8	Benzo (a) pyrene	625	10.0	<QL	G or C	1/5 YR
111-44-4	Bis 2-Chloroethyl Ether	(4)	(5)	< 5 µg/L	G or C	1/5 YR
108-60-1	Bis 2-Chloroisopropyl Ether	(4)	(5)	< 5 µg/L	G or C	1/5 YR
85-68-7	Butyl benzyl phthalate	625	10.0	< QL	G or C	1/5 YR
91-58-7	2-Choronaphthalene	(4)	(5)	< 5 µg/L	G or C	1/5 YR
218-01-9	Chrysene	625	10.0	<QL	G or C	1/5 YR
53-70-3	Dibenz(a,h)anthracene	625	20.0	<QL	G or C	1/5 YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
84-74-2	Dibutyl phthalate (synonym = Di-n-Butyl Phthalate)	625	10.0	<QL	G or C	1/5 YR
95-50-1	1,2-Dichlorobenzene	624	10.0	<QL	G or C	1/5 YR
541-73-1	1,3-Dichlorobenzene	624	10.0	<QL	G or C	1/5 YR
106-46-7	1,4-Dichlorobenzene	624	10.0	<QL	G or C	1/5 YR
91-94-1	3,3-Dichlorobenzidine	(4)	(5)	< 5 µg/L	G or C	1/5 YR
84-66-2	Diethyl phthalate	625	10.0	<QL	G or C	1/5 YR
117-81-7	Bis-2-ethylhexyl phthalate	625	10.0	<QL	G or C	1/5 YR
131-11-3	Dimethyl phthalate	(4)	(5)	< 5 µg/L	G or C	1/5 YR
121-14-2	2,4-Dinitrotoluene	625	10.0	<QL	G or C	1/5 YR
122-66-7	1,2-Diphenylhydrazine	(4)	(5)	< 5 µg/L	G or C	1/5 YR
206-44-0	Fluoranthene	625	10.0	<QL	G or C	1/5 YR
86-73-7	Fluorene	625	10.0	<QL	G or C	1/5 YR
118-74-1	Hexachlorobenzene	(4)	(5)	< 5 µg/L	G or C	1/5 YR
87-68-3	Hexachlorobutadiene	(4)	(5)	< 5 µg/L	G or C	1/5 YR
77-47-4	Hexachlorocyclopentadiene	(4)	(5)	< 5 µg/L	G or C	1/5 YR
67-72-1	Hexachloroethane	(4)	(5)	< 5 µg/L	G or C	1/5 YR
193-39-5	Indeno(1,2,3-cd)pyrene	625	20.0	<QL	G or C	1/5 YR
78-59-1	Isophorone	625	10.0	<QL	G or C	1/5 YR
98-95-3	Nitrobenzene	625	10.0	<QL	G or C	1/5 YR
62-75-9	N-Nitrosodimethylamine	(4)	(5)	< 5 µg/L	G or C	1/5 YR
621-64-7	N-Nitrosodi-n-propylamine	(4)	(5)	< 5 µg/L	G or C	1/5 YR
86-30-6	N-Nitrosodiphenylamine	(4)	(5)	< 5 µg/L	G or C	1/5 YR
129-00-0	Pyrene	625	10.0	<QL	G or C	1/5 YR
120-82-1	1,2,4-Trichlorobenzene	625	10.0	<QL	G or C	1/5 YR

## VOLATILES

107-02-8	Acrolein	(4)	(5)	< 50 µg/L	G	1/5 YR
107-13-1	Acrylonitrile	(4)	(5)	< 50 µg/L	G	1/5 YR
71-43-2	Benzene	624	10.0	<QL	G	1/5 YR
75-25-2	Bromoform	624	10.0	<QL	G	1/5 YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
56-23-5	Carbon Tetrachloride	624	10.0	<QL	G	1/5 YR
108-90-7	Chlorobenzene (synonym = monochlorobenzene)	624	50.0	<QL	G	1/5 YR
124-48-1	Chlorodibromomethane	624	10.0	<QL	G	1/5 YR
67-66-3	Chloroform	624	10.0	<QL	G	1/5 YR
75-09-2	Dichloromethane (synonym = methylene chloride)	624	20.0	<QL	G	1/5 YR
75-27-4	Dichlorobromomethane	624	10.0	<QL	G	1/5 YR
107-06-2	1,2-Dichloroethane	624	10.0	<QL	G	1/5 YR
75-35-4	1,1-Dichloroethylene	624	10.0	<QL	G	1/5 YR
156-60-5	1,2-trans-dichloroethylene	(4)	(5)	<5 µg/L	G	1/5 YR
78-87-5	1,2-Dichloropropane	(4)	(5)	<5 µg/L	G	1/5 YR
542-75-6	1,3-Dichloropropene	(4)	(5)	< 5 µg/L	G	1/5 YR
100-41-4	Ethylbenzene	624	10.0	<QL	G	1/5 YR
74-83-9	Methyl Bromide	(4)	(5)	<10 µg/L	G	1/5 YR
79-34-5	1,1,2,2-Tetrachloroethane	(4)	(5)	< 5 µg/L	G	1/5 YR
127-18-4	Tetrachloroethylene	624	10.0	<QL	G	1/5 YR
10-88-3	Toluene	624	10.0	<QL	G	1/5 YR
79-00-5	1,1,2-Trichloroethane	(4)	(5)	< 5 µg/L	G	1/5 YR
79-01-6	Trichloroethylene	624	10.0	<QL	G	1/5 YR
75-01-4	Vinyl Chloride	624	10.0	<QL	G	1/5 YR

### RADIONUCLIDES

	Beta Particle & Photon Activity	(4)	(5)	11.6 pCi/L	G or C	1/5 YR
	Gross Alpha Particle Activity (pCi/L)	(4)	(5)	< 1.6	G or C	1/5 YR
	Combined Radium 226 and 228 (pCi/L)	(4)	(5)	226- 0.3 228 <0.9	G or C	1/5 YR
	Uranium (pCi/L)	(4)	(5)	< 0.7	G or C	1/5 YR

### ACID EXTRACTABLES<sup>(6)</sup>

95-57-8	2-Chlorophenol	625	10.0	<QL	G or C	1/5 YR
120-83-2	2,4 Dichlorophenol	625	10.0	<QL	G or C	1/5 YR
105-67-9	2,4 Dimethylphenol	625	10.0	<QL	G or C	1/5 YR
51-28-5	2,4-Dinitrophenol	(4)	(5)	<20	G or C	1/5 YR

CASRN#	CHEMICAL	EPA ANALYSIS NO.	QUANTIFICATION LEVEL <sup>(1)</sup>	REPORTING RESULTS	SAMPLE TYPE <sup>(2)</sup>	SAMPLE FREQUENCY
534-52-1	2-Methyl-4,6-Dinitrophenol	(4)	(5)	< 5 µg/L	G or C	1/5 YR
25154-52-3	Nonylphenol	(5)	(5)	<5 µg/L	G or C	1/5 YR
87-86-5	Pentachlorophenol	625	50.0	<QL	G or C	1/5 YR
108-95-2	Phenol	625	10.0	<QL	G or C	1/5 YR
88-06-2	2,4,6-Trichlorophenol	625	10.0	<QL	G or C	1/5 YR

### MISCELLANEOUS

776-41-7	Ammonia as NH3-N	350.1	200	0.31 mg/L	C	1/5 YR
16887-00-6	Chlorides	(4)	(5)	38 mg/L	C	1/5 YR
7782-50-5	Chlorine, Total Residual	(4)	100	1.1 mg/L	G	1/5 YR
57-12-5	Cyanide, Free	(4)	10.0	<QL	G	1/5 YR
N/A	<i>E. coli</i> (N/CML)	(4)	(5)	< 1	G	1/5 YR
7783-06-4	Hydrogen Sulfide	(5)	(5)	0.448 mg/L	G	1/5 YR
60-10-5	Tributyltin <sup>(7)</sup>	NBSR 85-3295	(5)	< 0.3 µg/L	G or C	1/5 YR
471-34-1	Hardness (mg/L as CaCO <sub>3</sub> )	(4)	(5)	36 mg/L	G or C (10)	1/5 YR

Application (EPA Form 2A) data

Parameter	Maximum Daily Value		Average Daily Value		
	Value	Units	Value	Units	No. Samples
pH (minimum)	6.32	S.U.			
pH (maximum)	7.91	S.U.			
Flow Rate	0.229	MGD	0.069	MGD	Cont.
Temperature (Winter)	10	°C	15	NA	3
Temperature (Summer)	26	°C	24	NA	3

Pollutant	Maximum Daily Discharge		Average Daily Discharge		
	Conc.	Units	Conc.	Units	No. Samples
cBOD <sub>5</sub>	7.39	mg/l	6.17	mg/l	1/Week
Fecal Coliform	<2, >1600, 900	N/100 ml	NA	NA	3
<i>E. coli</i>	<1	MPN/10	NA	NA	1
TSS	5.14	mg/l	5.36	mg/l	1/Month

## DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
FLOW *(MDG)	0.045	0.053	NULL	NULL	NULL	10-Apr-06
	0.047	0.066	NULL	NULL	NULL	10-May-06
* highlight	0.059	0.081	NULL	NULL	NULL	10-Jun-06
indicates	0.058	0.079	NULL	NULL	NULL	10-Jul-06
95%	0.062	0.077	NULL	NULL	NULL	10-Aug-06
capacity	0.047	0.069	NULL	NULL	NULL	10-Sep-06
exceedance	0.06	0.111	NULL	NULL	NULL	10-Oct-06
	0.7	0.13	NULL	NULL	NULL	10-Nov-06
	0.074	0.135	NULL	NULL	NULL	10-Dec-06
	0.063	0.086	NULL	NULL	NULL	10-Jan-07
	0.06	0.074	NULL	NULL	NULL	10-Feb-07
	0.054	0.068	NULL	NULL	NULL	10-Mar-07
	0.052	0.078	NULL	NULL	NULL	10-Apr-07
	0.061	0.099	NULL	NULL	NULL	10-May-07
	0.059	0.072	NULL	NULL	NULL	10-Jun-07
	0.064	0.08	NULL	NULL	NULL	10-Jul-07
	0.075	0.097	NULL	NULL	NULL	10-Aug-07
	NULL	NULL	NULL	NULL	NULL	10-Sep-07
	NULL	NULL	NULL	NULL	NULL	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	NULL	NULL	NULL	NULL	NULL	10-Dec-07
	0.067	0.103	NULL	NULL	NULL	10-Jan-08
	0.089	0.11	NULL	NULL	NULL	10-Feb-08
	0.124	0.15	NULL	NULL	NULL	10-Mar-08
	0.135	0.182	NULL	NULL	NULL	10-Apr-08
	0.156	0.187	NULL	NULL	NULL	10-May-08
	0.144	0.165	NULL	NULL	NULL	10-Jun-08
	0.064	0.08	NULL	NULL	NULL	10-Jul-08
	0.075	0.097	NULL	NULL	NULL	10-Aug-08
	0.094	0.112	NULL	NULL	NULL	10-Sep-08
	0.086	0.099	NULL	NULL	NULL	10-Oct-08
	0.066	0.087	NULL	NULL	NULL	10-Nov-08
	0.053	0.082	NULL	NULL	NULL	10-Dec-08
	0.087	0.149	NULL	NULL	NULL	10-Jan-09
	0.075	0.094	NULL	NULL	NULL	10-Feb-09
	0.062	0.074	NULL	NULL	NULL	10-Mar-09
	0.116	0.161	NULL	NULL	NULL	10-Apr-09
	0.068	0.097	NULL	NULL	NULL	10-May-09
	0.074	0.098	NULL	NULL	NULL	10-Jun-09

DMR data 2006-2010

## DMR data 2006-2010

	<b>Quant Average</b>	<b>Quant Max</b>	<b>Concentration Average</b>	<b>Concentration Minimum</b>	<b>Concentration Max</b>	<b>DMR Due Date</b>
pH( SU)	NULL	NULL	NULL	NULL	NULL	10-Dec-07
	NULL	NULL	NULL	7.16	7.67	10-Jan-08
	NULL	NULL	NULL	7.02	7.8	10-Feb-08
	NULL	NULL	NULL	7.44	7.83	10-Mar-08
	NULL	NULL	NULL	7.3	7.79	10-Apr-08
	NULL	NULL	NULL	7.29	7.8	10-May-08
	NULL	NULL	NULL	7.3	7.8	10-Jun-08
	NULL	NULL	NULL	7	8.8	10-Jul-08
	NULL	NULL	NULL	7.1	7.6	10-Aug-08
	NULL	NULL	NULL	7	7.6	10-Sep-08
	NULL	NULL	NULL	7.2	8.2	10-Oct-08
	NULL	NULL	NULL	7	7.5	10-Nov-08
	NULL	NULL	NULL	7.3	8.2	10-Dec-08
	NULL	NULL	NULL	7.01	7.55	10-Jan-09
	NULL	NULL	NULL	6.95	7.5	10-Feb-09
	NULL	NULL	NULL	7.04	7.54	10-Mar-09
	NULL	NULL	NULL	7	7.5	10-Apr-09
	NULL	NULL	NULL	6.59	8.49	10-May-09
	NULL	NULL	NULL	6.7	7.61	10-Jun-09
	NULL	NULL	NULL	6.77	7.53	10-Jul-09
	NULL	NULL	NULL	6.71	8.17	10-Aug-09
	NULL	NULL	NULL	6.81	7.73	10-Sep-09
	NULL	NULL	NULL	6.86	7.91	10-Oct-09
	NULL	NULL	NULL	7.1	8.23	10-Nov-09
	NULL	NULL	NULL	7	8.04	10-Dec-09
	NULL	NULL	NULL	6.32	7.8	10-Jan-10
	NULL	NULL	NULL	6.74	7.89	10-Feb-10
	NULL	NULL	NULL	6.29	7.68	10-Mar-10
	NULL	NULL	NULL	6.2	8.17	10-Apr-10
	NULL	NULL	NULL	6.38	7.8	10-May-10
	NULL	NULL	NULL	6.9	7.48	10-Jun-10
	NULL	NULL	NULL	6.4	7.48	10-Jul-10
	NULL	NULL	NULL	6.64	7.91	10-Aug-10
	NULL	NULL	NULL	6.9	8.08	10-Sep-10
	NULL	NULL	NULL	6.54	7.54	10-Oct-10
	NULL	NULL	NULL	6.39	7.68	10-Nov-10
	NULL	NULL	NULL	6.6	7.5	10-Dec-10
				<b>90<sup>th</sup> percentile max:</b>	<b>8.2</b>	
				<b>10<sup>th</sup> percentile max:</b>	<b>7.5</b>	

## DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
TSS (mg/L)	0.47	1.02	2.67	NULL	6	10-Apr-06
	0.57	0.65	3.5	NULL	4	10-May-06
	1.2	1.36	5.33	NULL	6	10-Jun-06
	0.79	1	3.7	NULL	4	10-Jul-06
	0.84	1.56	3.5	NULL	7	10-Aug-06
	0.62	1	3.5	NULL	6	10-Sep-06
	1.19	1.38	5.25	NULL	6	10-Oct-06
	0.94	1.19	4.25	NULL	5	10-Nov-06
	1.24	1.88	4.2	NULL	5	10-Dec-06
	1.37	1.59	6	NULL	7	10-Jan-07
	1.6	2.3	7	NULL	9	10-Feb-07
	1.2	1.8	5.75	NULL	7	10-Mar-07
	1.9	2.5	9.8	NULL	13	10-Apr-07
	1.38	1.66	6	NULL	9	10-May-07
	1.2	1.5	4.8	NULL	6	10-Jun-07
	0.82	1.34	3.6	NULL	6	10-Jul-07
	0.89	1.02	2.75	NULL	3	10-Aug-07
	NULL	NULL	NULL	NULL	NULL	10-Sep-07
	NULL	NULL	NULL	NULL	NULL	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	NULL	NULL	NULL	NULL	NULL	10-Dec-07
	0.71	0.89	3.2	NULL	4	10-Jan-08
	0.9	1.2	2.8	NULL	3.4	10-Feb-08
	3.9	12.5	7.6	NULL	24	10-Mar-08
	2	3.5	3.8	NULL	6.3	10-Apr-08
	2.1	2.9	3.5	NULL	4.5	10-May-08
	1.8	2.2	3.4	NULL	4.1	10-Jun-08
	0.6	0.9	2.6	NULL	3.4	10-Jul-08
	1.1	2.2	3.6	NULL	7.3	10-Aug-08
	0.6	0.7	1.6	NULL	1.9	10-Sep-08
	0.8	1.2	2.3	NULL	3.9	10-Oct-08
	0.6	1.2	2	NULL	3.5	10-Nov-08
	0.8	1.2	3.9	NULL	5.9	10-Dec-08
	1.7	2.5	5.2	NULL	6.5	10-Jan-09
	1.1	1.9	3.9	NULL	6	10-Feb-09
	0.9	0.9	3.5	NULL	4	10-Mar-09
	1	1.2	1.7	NULL	2.8	10-Apr-09
	1.56	1.89	3.58	NULL	4.2	10-May-09
	1.37	2.03	5.05	NULL	7.9	10-Jun-09
	2.67	1.15	10.8	NULL	6.3	10-Jul-09

DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
TSS (mg/L)	1.2	0.56	4.6	NULL	2.4	10-Aug-09
	NULL	1.88	5.9	NULL	5.9	10-Sep-09
	1.3	1.3	5.8	NULL	5.8	10-Oct-09
	1.52	1.52	7	NULL	7	10-Nov-09
	2.37	NULL	6.2	NULL	6.2	10-Dec-09
	1.73	1.73	3.9	NULL	3.9	10-Jan-10
	1.79	1.79	5.2	1	5.2	10-Feb-10
	1.96	1.96	3.6	1	3.6	10-Mar-10
	2.66	2.66	6.5	NULL	6.5	10-Apr-10
	2.3	2.3	6.5	1	6.5	10-May-10
	0.86	0.86	3.3	NULL	3.3	10-Jun-10
	0.62	0.62	2.4	NULL	2.4	10-Jul-10
	203	0.69	3	NULL	3	10-Aug-10
	0.77	0.77	4.6	NULL	4.6	10-Sep-10
	0.51	0.51	3.2	NULL	3.2	10-Oct-10
	0.42	0.42	1.9	NULL	1.9	10-Nov-10
	0.57	0.57	2.6	NULL	2.6	10-Dec-10
CL2, TOTAL (mg/L)	NULL	NULL	<QL	NULL	NULL	10-Apr-06
	NULL	NULL	<QL	NULL	<QL	10-May-06
	NULL	NULL	<QL	NULL	<QL	10-Jun-06
	NULL	NULL	<QL	NULL	<QL	10-Jul-06
	NULL	NULL	<QL	NULL	<QL	10-Aug-06
	NULL	NULL	<QL	NULL	<QL	10-Sep-06
	NULL	NULL	<QL	NULL	<QL	10-Oct-06
	NULL	NULL	<QL	NULL	<QL	10-Nov-06
	NULL	NULL	<QL	NULL	<QL	10-Dec-06
	NULL	NULL	<QL	CL2, INST TECH MIN LIMIT	<QL	10-Jan-07
	NULL	NULL	<QL	NULL	<QL	CL2, INST TECH MIN LIMIT
	NULL	NULL	<QL	NULL	CL2, INST TECH MIN LIMIT	10-Mar-07
	NULL	NULL	<QL	NULL	<QL	10-Apr-07
	NULL	NULL	<QL	NULL	<QL	10-May-07
	NULL	NULL	<QL	NULL	<QL	10-Jun-07
	NULL	NULL	<QL	NULL	<QL	10-Jul-07
	NULL	NULL	<QL	NULL	<QL	10-Aug-07
	NULL	NULL	NUL	NUL	NUL	10-Sep-07
	NULL	NULL	NUL	NUL	NUL	10-Oct-07

## DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
CL2, TOTAL	NULL	NULL	NULL	NULL	NULL	10-Nov-07
(mg/L)	NULL	NULL	NULL	NULL	NULL	10-Dec-07
	NULL	NULL	<QL	NULL	<QL	10-Jan-08
	NULL	NULL	<QL	NULL	<QL	10-Feb-08
	NULL	NULL	<QL	NULL	<QL	10-Mar-08
	NULL	NULL	<QL	NULL	<QL	10-Apr-08
	NULL	NULL	<QL	NULL	<QL	10-May-08
	NULL	NULL	<QL	NULL	<QL	10-Jun-08
	NULL	NULL	<QL	NULL	<QL	10-Jul-08
	NULL	NULL	<QL	NULL	<QL	10-Aug-08
	NULL	NULL	<QL	NULL	<QL	10-Sep-08
	NULL	NULL	<QL	NULL	<QL	10-Feb-08
	NULL	NULL	<QL	NULL	<QL	10-Nov-08
	NULL	NULL	<QL	NULL	<QL	10-Dec-08
	NULL	NULL	<QL	NULL	<QL	10-Jan-09
	NULL	NULL	<QL	NULL	<QL	10-Feb-09
	NULL	NULL	<QI	NULL	<QL	10-Mar-09
	NULL	NULL	<QL	NULL	<QL	10-Apr-09
	NULL	NULL	<QL	NULL	<QL	10-May-09
	NULL	NULL	<QL	NULL	<QL	10-Jun-09
	NULL	NULL	<QL	NULL	<QL	10-Jul-09
	NULL	NULL	NULL	NULL	<QL	10-Aug-09
	NULL	NULL	<QL	NULL	<QL	10-Sep-09
	NULL	NULL	<QL	NULL	NULL	10-Oct-09
	NULL	NULL	<QL	NULL	<QL	10-Nov-09
	NULL	NULL	<QL	NULL	<QL	10-Dec-09
	NULL	NULL	<QL	NULL	<QL	10-Jan-10
	NULL	NULL	<QL	NULL	<QL	10-Feb-10
	NULL	NULL	<QL	NULL	<QL	10-Mar-10
	NULL	NULL	<QL	NULL	<QL	10-Apr-10
	NULL	NULL	<QL	NULL	<QL	10-May-10
	NULL	NULL	<QL	NULL	<QL	10-Jun-10
	NULL	NULL	<QL	NULL	<QL	10-Jul-10
	NULL	NULL	<QL	NULL	<QL	10-Aug-10
	NULL	NULL	<QL	NULL	<QL	10-Sep-10
	NULL	NULL	<QL	NULL	<QL	10-Oct-10
	NULL	NULL	<QL	NULL	<QL	10-Jun-07
	NULL	NULL	<QL	NULL	<QL	10-Dec-10
DO (mg/L)	NULL	NULL	NULL	8	NULL	10-Apr-06

## DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
DO (mg/L)	NULL	NULL	NULL	7.9	NULL	10-May-06
	NULL	NULL	NULL	7.1	NULL	10-Jun-06
	NULL	NULL	NULL	7.1	NULL	10-Jul-06
	NULL	NULL	NULL	7.1	NULL	10-Aug-06
	NULL	NULL	NULL	7.3	NULL	10-Sep-06
	NULL	NULL	NULL	7.1	NULL	10-Oct-06
	NULL	NULL	NULL	8.8	NULL	10-Nov-06
	NULL	NULL	NULL	8.5	NULL	10-Dec-06
	NULL	NULL	NULL	8.5	NULL	10-Jan-07
	NULL	NULL	NULL	8.3	NULL	10-Feb-07
	NULL	NULL	NULL	8.6	NULL	10-Mar-07
	NULL	NULL	NULL	8.6	NULL	10-Apr-07
	NULL	NULL	NULL	8	NULL	10-May-07
	NULL	NULL	NULL	8.9	NULL	10-Nov-06
	NULL	NULL	NULL	7.5	NULL	10-Jul-07
	1	NULL	NULL	7	NULL	10-Aug-07
	NULL	NULL	NULL	NULL	NULL	10-Sep-07
	NULL	NULL	NULL	NULL	NULL	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	NULL	NULL	NULL	NULL	NULL	10-Jun-10
	NULL	NULL	NULL	7.8	NULL	10-Jan-08
	NULL	NULL	NULL	8	11	10-Feb-08
	NULL	NULL	NULL	7.7	NULL	10-Mar-08
	NULL	NULL	NULL	7.4	NULL	10-Apr-08
	NULL	NULL	NULL	7	NULL	10-May-08
	NULL	NULL	NULL	7	NULL	10-Jun-08
	NULL	NULL	NULL	6.4	NULL	10-Jul-08
	NULL	NULL	NULL	6.9	NULL	10-Aug-08
	NULL	NULL	NULL	6.8	NULL	10-Feb-08
	NULL	NULL	NULL	6.9	NULL	10-Oct-08
	NULL	NULL	NULL	7.1	NULL	10-Nov-08
	NULL	NULL	NULL	7.8	NULL	10-Dec-08
	NULL	NULL	NULL	8.1	NULL	10-Jan-09
	NULL	NULL	NULL	8.3	NULL	10-Feb-09
	NULL	NULL	NULL	7.5	NULL	10-Mar-09
	NULL	NULL	NULL	7.7	NULL	10-Apr-09
	NULL	NULL	NULL	7.9	NULL	10-May-09
	NULL	NULL	NULL	7.9	NULL	10-Jun-09
	NULL	NULL	NULL	7.7	NULL	10-Jul-09
	NULL	NULL	NULL	6.34	NULL	10-Aug-09

## DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
DO (mg/L)	NULL	NULL	NULL	6.88	NULL	10-Sep-09
	NULL	NULL	NULL	6.93	NULL	10-Oct-09
	NULL	NULL	NULL	7.14	NULL	10-Nov-09
	NULL	NULL	NULL	7.82	NULL	10-Dec-09
	NULL	NULL	NULL	9.04	NULL	10-Jan-10
	NULL	NULL	NULL	9.62	NULL	10-Feb-10
	NULL	NULL	NULL	9.83	NULL	10-Mar-10
	NULL	NULL	NULL	8.98	NULL	10-Apr-10
		10-Dec-07				
	NULL	NULL	NULL	7.84	NULL	10-May-10
	NULL	NULL	NULL	6.7	NULL	10-Jun-10
	NULL	NULL	NULL	6.86	NULL	10-Jul-10
	NULL	NULL	NULL	6.56	NULL	10-Aug-10
	NULL	NULL	NULL	6.78	NULL	10-Jul-10
	NULL	NULL	NULL	6.72	NULL	10-Oct-10
	NULL	NULL	NULL	7.14	NULL	10-Mar-09
	NULL	NULL	NULL	7.49	NULL	10-Dec-10
AMMONIA, AS N (mg/L)	NR	NR	NR	NULL	NR	11-Apr-06
	NULL	NULL	X	NULL	X	10-Mar-10
	NULL	NULL	X	NULL	NULL	10-Apr-10
	NULL	NULL	X	NULL	X	10-May-10
	NULL	NULL	NULL	NULL	NULL	10-Jun-10
	NULL	NULL	NULL	NULL	#####	10-Jul-10
	NULL	NULL	X	NULL	X	10-Aug-10
	NULL	NULL	NR	NULL	11-Jan-08	10-Sep-10
	NULL	NULL	0.2	NULL	0.2	10-Oct-10
	NULL	NULL	0.34	NULL	0.34	10-Nov-10
	NULL	NULL	0.25	NULL	0.25	10-Dec-10
TKN (N-KJEL) (mg/L)	1.72	3.24	9.9	NULL	19	10-Apr-06
	0.63	0.84	3.74	NULL	4.85	10-May-06
	0.67	0.73	3	NULL	3.9	10-Jun-06
	0.21	0.5	1	NULL	2.59	10-Jul-06
	0.23	0.28	0.99	NULL	1.28	10-Aug-06
	0.15	0.2	0.84	NULL	1.23	10-Sep-06
	0.2	0.3	0.88	NULL	1.37	10-Oct-06

## DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
TKN (N-KJEL) (mg/L)	0.17	0.23	0.74	NULL	1	10-Nov-06
	0.22	0.51	0.67	NULL	1.09	10-Dec-06
	0.12	0.13	0.52	NULL	0.56	10-Jan-07
	0.14	0.19	0.6	NULL	0.76	10-Feb-07
	0.11	0.13	0.5	NULL	0.5	10-Mar-07
	0.13	0.23	0.65	NULL	1.24	10-Apr-07
	0.12	0.14	0.52	NULL	0.57	10-May-07
	0.17	0.25	0.7	NULL	0.97	10-Jun-07
	0.26	0.61	0.91	NULL	1.54	10-Jul-07
	0.31	0.52	1	NULL	1.61	10-Aug-07
	NULL	NULL	NULL	NULL	NULL	10-Sep-07
	NULL	NULL	NULL	NULL	NULL	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	NULL	NULL	NULL	NULL	NULL	10-Dec-07
	0.49	0.63	2.19	NULL	2.52	10-Jan-08
	1.59	4.4	4.4	NULL	11.5	10-Feb-08
	1.65	4.18	3.3	NULL	8	10-Mar-08
	1.4	2.1	2.73	NULL	3.79	10-Apr-08
	1.8	2.4	3	NULL	3.8	10-May-08
	3.09	3.8	5.7	NULL	7.1	10-Jun-08
	1.26	1.4	5.5	NULL	6.1	10-Jul-08
	1.46	2.2	4.9	NULL	7.5	10-Aug-08
	1.77	2.1	5	NULL	6.1	10-Sep-08
	1.58	1.9	4.8	NULL	6.2	10-Oct-08
	1.26	2.1	4.7	NULL	6.3	10-Nov-08
	0.87	2.5	4.3	NULL	12.2	10-Dec-08
	0.51	0.7	1.6	NULL	1.9	10-Jan-09
	0.28	0.6	1	NULL	1.9	10-Feb-09
	0.31	0.4	1.3	NULL	1.9	10-Mar-09
	0.43	0.68	1	NULL	1.3	10-Apr-09
	0.89	1.13	2.04	NULL	2.6	10-May-09
	0.51	0.81	1.78	NULL	2.22	10-Jun-09
	0.99	0.9	4.1	NULL	4.92	10-Jul-09
	0.44	0.39	1.71	NULL	1.67	10-Aug-09
	0.58	1.01	2.2	NULL	3.74	10-Sep-09
	0.56	0.69	2.45	NULL	2.84	10-Oct-09
	0.3	0.5	1.43	NULL	2.25	10-Nov-09
	0.68	1.1	1.97	NULL	3.2	10-Dec-09
	0.87	2.76	1.45	NULL	3.88	10-Jan-10

## DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
TKN (N-KJEL) (mg/L)	0.27	0.45	0.64	NULL	1.06	10-Feb-10
	0.36	0.47	0.79	NULL	1.17	10-Mar-10
	0.43	0.57	1.09	NULL	1.55	10-Apr-10
	0.47	0.65	1.39	NULL	2.01	10-May-10
	0.35	0.52	1.25	NULL	1.86	10-Jun-10
	0.38	0.4	1.43	NULL	2.15	10-Jul-10
	0.28	0.48	1.27	NULL	2.09	10-Aug-10
	0.22	0.31	1.24	NULL	1.24	10-Sep-10
	0.26	0.27	1.31	NULL	1.63	10-Oct-10
	0.26	0.34	1.05	NULL	1.42	10-Nov-10
	0.27	0.52	1.21	NULL	2.35	10-Dec-10
cBOD <sub>5</sub> (mg/L)	1.68	1.92	9.67	NULL	11	10-Apr-06
	2.2	3.1	13	NULL	16	10-May-06
	1.7	1.9	7.7	NULL	10	10-Jun-06
	2.18	2.46	10	NULL	13	10-Jul-06
	1.08	1.46	4.5	NULL	5	10-Aug-06
	0.73	0.95	4	NULL	6	10-Sep-06
	1.62	2.85	7.25	NULL	13	10-Oct-06
	1.16	2.31	5.25	NULL	10	10-Nov-06
	1.23	2.35	3.8	NULL	5	10-Dec-06
	0.8	1.14	3.5	NULL	5	10-Jan-07
	1	1.3	4.5	NULL	5	10-Feb-07
	0.9	1	4	NULL	4	10-Mar-07
	0.97	1.16	5	NULL	6	10-Apr-07
	0.8	0.86	3.5	NULL	4	10-May-07
	0.95	1.29	3.75	NULL	5	10-Jun-07
	1.02	2.42	4.2	NULL	9	10-Jul-07
	0.81	1.02	2.5	NULL	3	10-Aug-07
	NULL	NULL	NULL	NULL	NULL	10-Sep-07
	NULL	NULL	NULL	NULL	NULL	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	NULL	NULL	NULL	NULL	NULL	10-Dec-07
	1.2	1.7	5.3	NULL	7	10-Jan-08
	2.3	3.5	6.75	NULL	10	10-Feb-08
	3.9	6.8	7.8	NULL	13	10-Mar-08
	3.6	3.9	7	NULL	7	10-Apr-08
	3.8	5.1	6.3	NULL	8	10-May-08
	5.1	6.5	9.5	NULL	12	10-Jun-08

## DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
cBOD <sub>5</sub>	1.9	2.7	8	NULL	12	10-Jul-08
(mg/L)	2	3.3	7	NULL	11	10-Aug-08
	1.7	2.2	4.8	NULL	6	10-Sep-08
	1.8	2.3	5.3	NULL	7	10-Oct-08
	1.5	2.7	5.4	NULL	8	10-Nov-08
	1.2	2.3	6.3	NULL	1	10-Dec-08
	1.8	2.4	5.8	NULL	10	10-Jan-09
	1.3	1.8	4.6	NULL	6	10-Feb-09
	1.6	2.4	6.5	NULL	9	10-Mar-09
	2.3	4.2	5	NULL	8	10-Apr-09
	2.44	4.35	5.6	NULL	10	10-May-09
	0.99	1.45	3.5	NULL	7.9	10-Jun-09
	5.53	2	21.5	NULL	9	10-Jul-09
	0.86	0.94	3.4	NULL	4	10-Aug-09
	1.48	1.88	5.5	NULL	7	10-Sep-09
	1.61	2.01	7.6	NULL	7	10-Oct-09
	1.48	2.68	7	NULL	12	10-Nov-09
	2.45	3.94	7.25	NULL	13	10-Dec-09
	2.29	2.85	4.4	NULL	4	10-Jan-10
	1.76	2.44	4.25	NULL	5	10-Feb-10
	2.03	2.61	4.25	NULL	5	10-Mar-10
	1.63	2.45	4	NULL	6	10-Apr-10
	1.49	1.85	4.33	NULL	5	10-May-10
	1.36	1.75	4.75	NULL	6	10-Jun-10
	1.32	1.32	5.2	NULL	10	10-Jul-10
	1.39	1.85	6.5	NULL	9	10-Aug-10
	0.69	0.8	3.75	NULL	4	10-Sep-10
	0.85	0.64	3.8	NULL	4	10-Oct-10
	0.95	1.12	4	NULL	5	10-Nov-10
	1.01	1.12	4.5	NULL	5	10-Dec-10
TOTAL	NULL	NULL	NR	NULL	NR	10-Apr-06
RECOVER-	NULL	NULL	X	NULL	X	10-Mar-10
ABLE (TR)	NULL	NULL	X	NULL	X	10-Apr-10
ZINC (µg/L)	NULL	NULL	X	NULL	X	10-May-10
	NULL	NULL	NULL	NULL	NULL	10-Jun-10
	NULL	NULL	NULL	NULL	NULL	10-Jul-10
	NULL	NULL	X	NULL	X	10-Aug-10
	NULL	NULL	NR	NULL	NR	10-Sep-10
	NULL	NULL	28	NULL	28	10-Oct-10

## DMR data 2006-2010

	Quant Average	Quant Max	Concentration Average	Concentration Minimum	Concentration Max	DMR Due Date
TR ZINC	NULL	NULL	26	NULL	26	10-Nov-10
(µg/L)	NULL	NULL	18	NULL	18	10-Dec-10
TOTAL	NULL	NULL	5	NULL	5	10-Apr-06
RECOVER-	NULL	NULL	5	NULL	5	10-May-06
ABLE	NULL	NULL	8	NULL	8	10-Jun-06
COPPER						
(µg/L)	NULL	NULL	5	NULL	5	10-Jul-06
	NULL	NULL	6	NULL	6	10-Aug-06
	NULL	NULL	14	NULL	14	10-Sep-06
	NULL	NULL	10	NULL	10	10-Oct-06
	NULL	NULL	5	NULL	5	10-Nov-06
	NULL	NULL	7	NULL	7	10-Dec-06
	NULL	NULL	9	NULL	9	10-Jan-07
	NULL	NULL	8	NULL	8	10-Feb-07
	NULL	NULL	9	NULL	9	10-Mar-07
	NULL	NULL	8	NULL	8	10-Apr-07
	NULL	NULL	9	NULL	9	10-May-07
	NULL	NULL	8	NULL	8	10-Jun-07
	NULL	NULL	9	NULL	9	10-Jul-07
	NULL	NULL	9	NULL	9	10-Aug-07
	NULL	NULL	NULL	NULL	NULL	10-Sep-07
	NULL	NULL	NULL	NULL	NULL	10-Oct-07
	NULL	NULL	NULL	NULL	NULL	10-Nov-07
	NULL	NULL	NULL	NULL	NULL	10-Dec-07
	NULL	NULL	8	NULL	8	10-Jan-08
	NULL	NULL	7	NULL	7	10-Feb-08
	NULL	NULL	X	NULL	X	10-Mar-08
	NULL	NULL	5	NULL	5	10-Apr-08
	NULL	NULL	X	NULL	X	10-May-08
	NULL	NULL	5	NULL	5	10-Jun-08
	NULL	NULL	8	NULL	8	10-Jul-08
	NULL	NULL	9	NULL	9	10-Aug-08
	NULL	NULL	6	NULL	6	10-Sep-08
	NULL	NULL	7	NULL	7	10-Oct-08
	NULL	NULL	9	NULL	9	10-Nov-08
	NULL	NULL	9	NULL	9	10-Dec-08
	NULL	NULL	5	NULL	5	10-Jan-09
	NULL	NULL	14	NULL	14	10-Feb-09
	NULL	NULL	10	NULL	10	10-Mar-09

## DMR data 2006-2010

	<b>Quant Average</b>	<b>Quant Max</b>	<b>Concentration Average</b>	<b>Concentration Minimum</b>	<b>Concentration Max</b>	<b>DMR Due Date</b>
TOTAL	NULL	NULL	5	NULL	5	10-Apr-09
RECOVER-	NULL	NULL	6	NULL	6	10-May-09
ABLE	NULL	NULL	6	NULL	6	10-Jun-09
COPPER ( $\mu\text{g/L}$ )	NULL	NULL	10	NULL	10	10-Jul-09
	NULL	NULL	8	NULL	8	10-Aug-09
	NULL	NULL	11	NULL	11	10-Sep-09
	NULL	NULL	9	NULL	9	10-Oct-09
	NULL	NULL	16	NULL	16	10-Nov-09
	NULL	NULL	8	NULL	8	10-Dec-09
	NULL	NULL	45	NULL	45	10-Jan-10
	NULL	NULL	8	NULL	8	10-Feb-10
	NULL	NULL	130	NULL	130	10-Mar-10
	NULL	NULL	5.7	NULL	5.7	10-Apr-10
	NULL	NULL	9	NULL	9	10-May-10
	NULL	NULL	5	NULL	5	10-Jun-10
	NULL	NULL	7	NULL	7	10-Jul-10
	NULL	NULL	26	NULL	26	10-Aug-10
	NULL	NULL	19	NULL	19	10-Sep-10
	NULL	NULL	13	NULL	13	10-Oct-10
	NULL	NULL	11	NULL	11	10-Nov-10
	NULL	NULL	8	NULL	8	10-Dec-10

**Attachment G: MSTRANTI Data Source Report, MSTRANTI, and  
Stats.exe Results**

## MSTRANTI DATA SOURCE REPORT

<b>Stream information</b>	
Mean Hardness	Same as effluent for discharge to 0 MGD flows
90% Temperature (annual)	Same as effluent for discharge to 0 MGD flows
90% Temperature (wet season)	NA
90% Maximum pH	Same as effluent for discharge to 0 MGD flows
10% Maximum pH	Same as effluent for discharge to 0 MGD flows
Tier Designation	Tier Determination
<b>Stream Flows</b>	
All Data	Flow Frequency Determination
<b>Mixing Information</b>	
All Data	Standard 100% for 0 MGD flows
<b>Effluent Information</b>	
Mean Hardness	Effluent data submitted with application
90% Temperature (annual)	Application (26°C)
90% Maximum pH	Calculated from DMR data (8.2 SU)
10% Maximum pH	Calculated from DMR data (7.5 SU)
Discharge flow	Design Flow (0.060 MGD)

Data Location:

Flow Frequency Memo – Attachment A

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: **Town of Surry STP**Permit No.: **VAA0061646**Receiving Stream: **UT of Dark Swamp**

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information				Effluent Information			
Mean Hardness (as CaCO <sub>3</sub> ) =	36 mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	100 %			Mean Hardness (as CaCO <sub>3</sub> ) =	36 mg/L		
90% Temperature (Annual) =	26 deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	100 %			90% Temp (Annual) =	26 deg C		
90% Temperature (Wet season) =	NA deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	100 %			90% Temp (Wet season) =	NA deg C		
90% Maximum pH =	8.2 SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	100 %			90% Maximum pH =	8.2 SU		
10% Maximum pH =	7.5 SU	30Q10 (Wet season)	0 MGD	- 30Q10 Mix =	100 %			10% Maximum pH =	7.5 SU		
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD					Discharge Flow =	0.06 MGD		
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	0 MGD								
Trout Present Y/N? =	n										
Early Life Stages Present Y/N? =	y										

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	5	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile <sup>c</sup>	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin <sup>c</sup>	0	3.0E+00	--	na	5.0E-04	3.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	3.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	5.73E+00	8.55E-01	na	--	5.73E+00	8.55E-01	na	--	--	--	--	--	--	--	--	--	5.73E+00	8.55E-01	na	--
Ammonia-N (mg/l) (High Flow)	0	5.73E+00	#VALUE!	na	--	5.73E+00	#VALUE!	na	--	--	--	--	--	--	--	--	--	5.73E+00	#VALUE!	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene <sup>c</sup>	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine <sup>c</sup>	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether <sup>c</sup>	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate <sup>c</sup>	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform <sup>c</sup>	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	1.2E+00	5.1E-01	na	--	1.2E+00	5.1E-01	na	--	--	--	--	--	--	--	--	--	1.2E+00	5.1E-01	na	--
Carbon Tetrachloride <sup>c</sup>	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane <sup>c</sup>	0	2.4E+00	4.3E-03	na	8.1E-03	2.4E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03





Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	2.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	2.0E+01	5.0E+00	na	4.2E+03
Silver	0	6.0E-01	--	na	--	6.0E-01	--	na	--	--	--	--	--	--	--	--	--	6.0E-01	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,1,2,2-Tetrachloroethane <sup>C</sup>	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	--	--	na	4.0E+01
Tetrachloroethylene <sup>C</sup>	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	--	--	na	4.7E-01
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	--	--	na	6.0E+03
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Toxaphene <sup>C</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	7.3E-01	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	7.3E-01	2.0E-04	na	2.8E-03
Tributyltin	0	4.6E-01	7.2E-02	na	--	4.6E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	4.6E-01	7.2E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	--	--	na	7.0E+01
1,1,2-Trichloroethane <sup>C</sup>	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+02
Trichloroethylene <sup>C</sup>	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	--	--	na	3.0E+02
2,4,6-Trichlorophenol <sup>C</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	na	2.4E+01
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Vinyl Chloride <sup>C</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	na	2.4E+01
Zinc	0	4.9E+01	5.0E+01	na	2.6E+04	4.9E+01	5.0E+01	na	2.6E+04	--	--	--	--	--	--	--	--	4.9E+01	5.0E+01	na	2.6E+04

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipalities
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	3.1E-01
Chromium III	1.9E+01
Chromium VI	6.4E+00
Copper	2.1E+00
Iron	na
Lead	2.2E+00
Manganese	na
Mercury	4.6E-01
Nickel	5.1E+00
Selenium	3.0E+00
Silver	2.4E-01
Zinc	2.0E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

## Stats.exe Results

Facility = Surry WWTF Chemical = Arsenic Chronic averaging period = 4 WLAA = 340 WLAC = 150 Q.L. = 1 # samples/mo. = 1 # samples/wk. = 1	Facility = Surry WWTF Chemical = Chromium VI Chronic averaging period = 4 WLAA = 16 WLAC = 11 Q.L. = 1.6 # samples/mo. = 1 # samples/wk. = 1
Summary of Statistics:	Summary of Statistics:
# observations = 1 Expected Value = 2 Variance = 1.44 C.V. = 0.6 97th percentile daily values = 4.86683 97th percentile 4 day average = 3.32758 97th percentile 30 day average= 2.41210 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data	# observations = 1 Expected Value = 3 Variance = 3.24 C.V. = 0.6 97th percentile daily values = 7.30025 97th percentile 4 day average = 4.99137 97th percentile 30 day average= 3.61815 # < Q.L. = 0 Model used = BPJ Assumptions, type 2 data
No Limit is required for this material	No Limit is required for this material
The data are:  2 µg/L	The data are:  3 µg/L  Chromium III tested below the Agency QL. No further analysis is needed.

<p>Facility = Surry WWTF      Chemical = Copper      Chronic averaging period = 4      WLAA = 5.1      WLAC = 3.7      Q.L. = 0.5      # samples/mo. = 1      # samples/wk. = 1</p> <p><b>Summary of Statistics:</b></p> <p># observations = 1      Expected Value = 5.8      Variance = 12.1104      C.V. = 0.6      97th percentile daily values = 14.1138      97th percentile 4 day average = 9.64998      97th percentile 30 day average= 6.99510      # &lt; Q.L. = 0      Model used = BPJ Assumptions,      type 2 data</p> <p>A limit is needed based on Acute Toxicity      Maximum Daily Limit = 5.1      Average Weekly limit = 5.1      Average Monthly LImit = 5.1</p> <p>The data are:      5.8 µg/L (application)</p> <p>The dissolved data reported on the application was used for this analysis. This limit is less stringent than the 3.8 µg/L limit from the 2006 permit. Backsliding prevents the limit from being made less stringent therefore the 2006 permit limit is carried forward.</p>	<p>Facility = Surry WWTF      Chemical = Lead      Chronic averaging period = 4      WLAA = 32      WLAC = 3.7      Q.L. = 0.5      # samples/mo. = 1      # samples/wk. = 1</p> <p><b>Summary of Statistics:</b></p> <p># observations = 1      Expected Value = .8      Variance = .2304      C.V. = 0.6      97th percentile daily values = 1.94673      97th percentile 4 day average = 1.33103      97th percentile 30 day average= .964842      # &lt; Q.L. = 0      Model used = BPJ Assumptions,      type 2 data</p> <p>No Limit is required for this material</p> <p>The data are:      0.8 µg/L</p>
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<p>Facility = Surry WWTF      Chemical = Nickel      Chronic averaging period = 4      WLAa = 77      WLAc = 8.5      Q.L. = 0.94      # samples/mo. = 1      # samples/wk. = 1</p> <p><b>Summary of Statistics:</b></p> <p># observations = 1      Expected Value = 1.7      Variance = 1.0404      C.V. = 0.6      97th percentile daily values = 4.13680      97th percentile 4 day average = 2.82844      97th percentile 30 day average= 2.05029      # &lt; Q.L. = 0      Model used = BPJ Assumptions,      type 2 data</p> <p>No Limit is required for this material</p> <p>The data are:      1.7 µg/L</p>	<p>Facility = Surry WWTF      Chemical = Dissolved Zinc      Chronic averaging period = 4      WLAa = 49      WLAc = 50      Q.L. = 3.6      # samples/mo. = 1      # samples/wk. = 1</p> <p><b>Summary of Statistics:</b></p> <p># observations = 1      Expected Value = 21      Variance = 158.76      C.V. = 0.6      97th percentile daily values = 51.1017      97th percentile 4 day average = 34.9395      97th percentile 30 day average= 25.3271      # &lt; Q.L. = 0      Model used = BPJ Assumptions,      type 2 data</p> <p>A limit is needed based on Acute Toxicity      Maximum Daily Limit = 49      Average Weekly limit = 49      Average Monthly LImit = 49</p> <p>The data are:      21 µg/L (application)</p> <p>The dissolved data reported on the application was used for this analysis. This limit is less stringent than the 37 µg/L limit from the 2006 permit. Backsliding prevents the limit from being made less stringent therefore the 2006 permit limit is carried forward.</p>
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<p>Facility = Surry WWTF  Chemical = Ammonia  Chronic averaging period = 30  WLAA = 5.73  WLAC = 0.855  Q.L. = .200  # samples/mo. = 1  # samples/wk. = 1</p>	<p>Facility = Surry WWTF  Chemical = TRC  Chronic averaging period = 4  WLAA = 19  WLAC = 11  Q.L. = 100  # samples/mo. = 30  # samples/wk. = 7</p>
<p>Summary of Statistics:</p> <p># observations = 1  Expected Value = 9  Variance = 29.16  C.V. = 0.6  97th percentile daily values = 21.9007  97th percentile 4 day average = 14.9741  97th percentile 30 day average= 10.8544  # &lt; Q.L. = 0  Model used = BPJ Assumptions,  type 2 data</p>	<p>Summary of Statistics:</p> <p># observations = 1  Expected Value = 20000  Variance = 1440000  C.V. = 0.6  97th percentile daily values = 48668.3  97th percentile 4 day average = 33275.8  97th percentile 30 day average= 24121.0  # &lt; Q.L. = 0  Model used = BPJ Assumptions,  type 2 data</p>
<p>A limit is needed based on Chronic Toxicity  Maximum Daily Limit = 1.72510792987095  Average Weekly limit = 1.72510792987095  Average Monthly LImit = 1.72510792987095</p>	<p>A limit is needed based on Chronic Toxicity  Maximum Daily Limit = 16.0883226245855  Average Weekly limit = 9.8252545713861  Average Monthly LImit = 7.9737131838758</p>
<p>The data are:  9.00 mg/L</p> <p>Per GM 00-2011 a datum of 9.0 mg/L has been used to force an ammonia limit. The 1.72 mg/L limit is more stringent than the 2.0 mg/L limit from the 2006 permit. The TKN limitation of 3.0 mg/L is not protective of ammonia toxicity; therefore, both ammonia and TKN limitations apply. A review of the DMR and application data shows that the facility is already meeting this limitation; therefore, a Schedule of Compliance is not provided.</p>	<p>The data are:  20000 µg/L</p> <p>Per GM 00-2011 a datum of 20000 µg/L was utilized to force a TRC limitation. The limitations are 8.0 µg/L monthly average and 9.8 µg/L weekly average. These limitations are equivalent to the 2006 permit limits.</p>

Facility = Surry WWTF  
Chemical = Hydrogen Sulfide  
Chronic averaging period = 4  
WLAA =  
WLAC = 2  
Q.L. = 56  
# samples/mo. = 1  
# samples/wk. = 1

Summary of Statistics:

# observations = 1  
Expected Value = 448  
Variance = 72253.4  
C.V. = 0.6  
97th percentile daily values = 1090.17  
97th percentile 4 day average = 745.377  
97th percentile 30 day average= 540.311  
# < Q.L. = 0  
Model used = BPJ Assumptions,  
type 2 data

A limit is needed based on Chronic Toxicity  
Maximum Daily Limit = 2.92514956810646  
Average Weekly limit = 2.92514956810646  
Average Monthly LImit = 2.92514956810646

The data are:

448 µg/L

Per the 1/27/2010 VPDES Permit Manual, hydrogen sulfide limits are not being placed in permits. Dissolved sulfide monitoring is required at this time as a surrogate. See the Fact Sheet Item 16 Dissolved Sulfide discussion for details.

Facility = Surry WWTF  
Chemical = Chlorides  
Chronic averaging period = 4  
WLAA = 860000  
WLAC = 230000  
Q.L. = 5  
# samples/mo. = 1  
# samples/wk. = 1

Summary of Statistics:

# observations = 1  
Expected Value = 38000  
Variance = 5198400  
C.V. = 0.6  
97th percentile daily values = 92469.8  
97th percentile 4 day average = 63224.0  
97th percentile 30 day average= 45830.0  
# < Q.L. = 0  
Model used = BPJ Assumptions,  
type 2 data

No Limit is required for this material

The data are:

38000 µg/L

Facility = Surry WWTF  
Chemical = Dissolved Cadmium  
Chronic averaging period = 4  
WLAA = 1.2  
WLAC = 0.51  
Q.L. = 0.2  
# samples/mo. = 1  
# samples/wk. = 1

Summary of Statistics:

# observations = 1  
Expected Value = .2  
Variance = .0144  
C.V. = 0.6  
97th percentile daily values =  
.486683  
97th percentile 4 day average =  
.332758  
97th percentile 30 day average=  
.241210  
# < Q.L. = 0  
Model used = BPJ Assumptions,  
type 2 data

No Limit is required for this material

The data are: 0.2 µg/L

Dissolved Cadmium was reported on the application as 0.2 µg/L, less than the Agency QL of 0.3 µg/L. Although this value is less than QL, a quantifiable concentration was recorded and a reasonable potential analysis performed. No limit is needed to be protective of Water Quality Standards for this parameter.

Attachment H: Order by Consent (Effective June 25, 2010)



## *COMMONWEALTH of VIRGINIA*

*DEPARTMENT OF ENVIRONMENTAL QUALITY*

PIEDMONT REGIONAL OFFICE

4949-A Cox Road, Glen Allen, Virginia 23060

(804) 527-5020 Fax (804) 527-5106

[www.deq.virginia.gov](http://www.deq.virginia.gov)

Doug W. Domenech  
Secretary of Natural Resources

David K. Paylor  
Director

Michael P. Murphy  
Regional Director

**STATE WATER CONTROL BOARD  
ENFORCEMENT ACTION - ORDER BY CONSENT  
ISSUED TO  
TOWN OF SURRY  
FOR  
TOWN OF SURRY WASTEWATER TREATMENT PLANT  
VPDES Permit No. VA0061646**

**SECTION A: Purpose**

This is a Consent Order issued under the authority of Va. Code § 62.1-44.15, between the State Water Control Board and the Town of Surry, regarding the Town of Surry Wastewater Treatment Plant, for the purpose of resolving certain violations of the State Water Control Law, the Virginia Pollutant Discharge Elimination System Permit Regulation and the above-referenced Permit

**SECTION B: Definitions**

Unless the context clearly indicates otherwise, the following words and terms have the meaning assigned to them below:

1. “Board” means the State Water Control Board, a permanent citizens’ board of the Commonwealth of Virginia, as described in Va. Code §§ 10.1-1184 and 62.1-44.7.
2. “CBOD” means carbonaceous biochemical oxygen demand.
3. “Department” or “DEQ” means the Department of Environmental Quality, an agency of the Commonwealth of Virginia, as described in Va. Code § 10.1-1183.
4. “Director” means the Director of the Department of Environmental Quality, as described in Va. Code § 10.1-1185.
5. “DMR” means Discharge Monitoring Report.

6. "Facility" or "Plant" means the Town of Surry Wastewater Treatment Plant, located at 11463 Rolfe Highway in Surry, Virginia, which treats and discharges treated sewage and other municipal wastes, for the residents and businesses of the Town of Surry.
7. "Surry" or "Town" means the Town of Surry, a political subdivision of the Commonwealth of Virginia. Surry is a "person" within the meaning of Va. Code § 62.1-44.3.
8. "Notice of Violation" or "NOV" means a type of Notice of Alleged Violation under Va. Code § 62.1-44.15.
9. "O&M" means operations and maintenance.
10. "Order" means this document, also known as a "Consent Order" or "Order by Consent," a type of Special Order under the State Water Control Law.
11. "Permit" means VPDES Permit No. VA0061646, which was issued under the State Water Control Law and the Regulation to Surry on January 17, 2006 and which expires on January 16, 2011.
12. "Pollutant" means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 USC § 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water... 9 VAC 25-31-10.
13. "Pollution" means such alteration of the physical, chemical, or biological properties of any state waters as will or is likely to create a nuisance or render such waters (a) harmful or detrimental or injurious to the public health, safety, or welfare or to the health of animals, fish, or aquatic life; (b) unsuitable with reasonable treatment for use as present or possible future sources of public water supply; or (c) unsuitable for recreational, commercial, industrial, agricultural, or other reasonable uses, provided that (i) an alteration of the physical, chemical, or biological property of state waters or a discharge or deposit of sewage, industrial wastes or other wastes to state waters by any owner which by itself is not sufficient to cause pollution but which, in combination with such alteration of or discharge or deposit to state waters by other owners, is sufficient to cause pollution; (ii) the discharge of untreated sewage by any owner into state waters; and (iii) contributing to the contravention of standards of water quality duly established by the Board, are "pollution." Va. Code § 62.1-44.3.
14. "PRO" means the Piedmont Regional Office of DEQ, located in Glen Allen, Virginia.
15. "Regulation" means the VPDES Permit Regulation, 9 VAC 25-31-10 *et seq.*

16. "State Water Control Law" means Chapter 3.1 (*§ 62.1-44.2 et seq.*) of Title 62.1 of the Va. Code.
17. "State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands. Va. Code § 62.1-44.3.
18. "TKN" means Total Kjeldahl Nitrogen.
19. "TSS" means total suspended solids.
20. "Va. Code" means the Code of Virginia (1950), as amended.
21. "VAC" means the Virginia Administrative Code.
22. "VPDES" means Virginia Pollutant Discharge Elimination System.
23. "Warning Letter" or "WL" means a type of Notice of Alleged Violation under Va. Code § 62.1-44.15.

### **SECTION C: Findings of Fact and Conclusions of Law**

1. The Town of Surry owns and operates a wastewater treatment Plant in Surry, Virginia. The Permit allows Surry to discharge treated sewage and other municipal wastes from the Plant to an unnamed tributary of Dark Swamp, in strict compliance with the terms and conditions of the Permit.
2. Dark Swamp is located in the James River (Lower) Basin. Dark Swamp is not listed in DEQ's 305(b) report as impaired.
3. The Department and the Town of Surry entered into a Consent Order on June 29, 2007 which required the Town to connect to the regional sewer collection system owned by the County of Surry. After analysis of the project the County determined that it was not economically feasible for the County to accept the wastewater flow from the Town.
4. Based on a Department review of DMRs submitted by Surry for the April 2008 through March 2009 monitoring periods as required by the Permit, Surry exceeded discharge limitations contained in Part I.A.1 of the Permit for TKN for the months of April through November 2008; CBOD in April and May of 2008 and March 2009; total copper in June through November 2008 and January and February 2009; and chlorine in January 2009.
5. DMRs indicated that the monthly average influent flow from May through October of 2008, December 2008, and from January through March of 2009 exceeded the design flow of the Facility. DEQ did not receive written notice of this exceedance. Part I,

Section D.1 of VPDES Permit VA0061646 requires that a written notice must be submitted when the monthly average flow influent to the sewage treatment works reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice must be submitted within 30 days from the third consecutive month for which the flow reached 95% of the design capacity. The Plant operator later stated that after his hiring in April 2009, the flow meter was found to be recording high flows when compared to instantaneous readings, and that the meter's calibration appears to drift.

6. DEQ staff noted that the DMRs for the May 2008 through February 2009 monitoring periods, received at PRO on April 10, 2009, were not submitted by Surry before the 10<sup>th</sup> day of each month after monitoring occurs, as required by Part II.C.1 of VPDES Permit VA0061646.
7. Surry had also reported total chlorine (parameter 005) on DMRs submitted for the May 2008 through March 2009 monitoring periods in a manner inconsistent with Part I.D.7 of the Permit.
8. PRO issued Notices of Violation Nos. W2008-09-P-0001 on September 19, 2008 and W2009-05-P-0002 on May 20, 2009 for the above Permit effluent limit exceedances and monitoring submission violations.
9. On June 8, 2009, the Department met with Surry to discuss the compliance issues at the Facility. Surry stated that prior to April 2009 the Facility was operated by a contract operator who failed to make required monitoring submittals to DEQ in a timely manner and allowed the Facility to fall into disrepair. The new contract operator attended the meeting and provided the Department with a detailed diagnostic evaluation of the Facility and a synopsis of conditions at the Plant and the actions taken to date to improve effluent quality. Surry submitted to the Department a list of additional interim corrective action items designed to bring the Town into compliance with its Permit effluent limits without a costly upgrade.
10. Based on a Department review of DMRs submitted by Surry for the April 2009 through October 2009 monitoring periods as required by the Permit, Surry exceeded discharge limitations contained in Part I.A.1 of the Permit for TKN in April, June and August of 2009; CBOD in April and June of 2009; total copper from April through October 2009; chlorine in June 2009; and TSS in June 2009. The violations observed in June 2009 were the result of an upset caused by a discharge of diesel fuel from a commercial garage into the collection system, which resulted in mortality of the functioning biomass. The upset was reported by Surry on June 8, 2009.
11. DMRs also indicated that the monthly average influent flow from April through September 2009 exceeded the design flow of the Facility. DEQ did not receive written notice of this exceedance. Part I, Section D.1 of the Permit requires that a written notice must be submitted when the monthly average flow influent to the sewage treatment

works reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice must be submitted within 30 days from the third consecutive month for which the flow reached 95% of the design capacity.

12. DEQ staff noted that Surry had reported total chlorine (parameter 005) on DMRs submitted for the April, May, August, September, and October 2009 monitoring periods in a manner inconsistent with Part I.D.7 of the Permit. In addition, there was a discrepancy between reported TSS values on the October 2009 DMR and the operations report for October 2009 which is contrary to Part II.B.1 of the Permit.
13. In addition, Surry had failed to submit a written report of noncompliance with the DMRs, as required by Part II I.3. of the Permit, for the July, September, and October 2009 monitoring periods.
14. PRO issued a Notice of Violation No. W2009-12-P-0004 on January 4, 2010 for the Permit effluent limit exceedances, monitoring, and reporting violations listed in paragraphs C10 through C14.
15. A Department review of DMRs submitted by Surry for the November 2009 through January 2010 monitoring periods indicate that Surry failed to meet Permit effluent limits for CBOD in November 2009; copper in November 2009 through January 2010; TKN in November and December 2009; and, chlorine in January 2010.
16. Surry's operating logs indicate that it discharged treated wastewater from the Plant every day from April 1, 2008 through January 31, 2010.
17. Va. Code § 62.1-44.5 states that: “[E]xcept in compliance with a certificate issued by the Board, it shall be unlawful for any person to discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances.”
18. The Regulation, at 9 VAC 25-31-50, also states that except in compliance with a VPDES permit, or another permit issued by the Board, it is unlawful to discharge into state waters sewage, industrial wastes or other wastes.
19. Va. Code § 62.1-44.15(5a) states that a VPDES permit is a “certificate” under the statute.
20. The Department has issued no permits or certificates to Surry other than VPDES Permit No. VA0061646.
21. The unnamed tributary of Dark Swamp is a surface water located wholly within the Commonwealth and is a “state water” under State Water Control Law.
22. Va. Code § 62.1-44.31 states that it shall be unlawful for any owner to fail to comply with any special order adopted by the Board.

23. Based on the results of DMRs submitted by Surry and the information received by the Department at the June 8, 2009 meeting, the Board concludes that Surry has violated the Permit, Va. Code § 62.1-44.5 and 9 VAC 25-31-50, by discharging treated sewage and municipal wastes from the Plant while concurrently failing to comply with the conditions of the Permit, as described in paragraphs C3 through C7 and C10 through C14, above.
24. In order for Surry to return to compliance, DEQ staff and representatives of Surry have agreed to the Schedule of Compliance, which is incorporated as Appendix A of this Order.

#### **SECTION D: Agreement and Order**

Accordingly, by virtue of the authority granted it in Va. Code §§ 62.1-44.15, the Board orders Surry, and Surry agrees to:

1. The termination of the previous Consent Order issued on June 29, 2007, by virtue of the issuance of this Order.
2. Perform the actions described in Appendices A and B of this Order; and
3. Pay a civil charge of \$7,020 within 30 days of the effective date of the Order in settlement of the violations cited in this Order.

Payment shall be made by check, certified check, money order or cashier's check payable to the "Treasurer of Virginia," and delivered to:

Receipts Control  
Department of Environmental Quality  
Post Office Box 1104  
Richmond, Virginia 23218

Surry shall include its Federal Employer Identification Number (FEIN) with the civil charge payment and shall indicate that the payment is being made in accordance with the requirements of this Order for deposit into the Virginia Environmental Emergency Response Fund (VEERF).

#### **SECTION E: Administrative Provisions**

1. The Board may modify, rewrite, or amend this Order with the consent of Surry for good cause shown by Surry, or on its own motion pursuant to the Administrative Process Act, Va. Code § 2.2-4000 *et seq.*, after notice and opportunity to be heard.
2. This Order addresses and resolves only those violations specifically identified in Section C of this Order. This Order shall not preclude the Board or the Director from taking any action authorized by law, including but not limited to: (1) taking any action authorized

by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the facility; or (3) taking subsequent action to enforce the Order.

3. For purposes of this Order and subsequent actions with respect to this Order only, Surry admits the jurisdictional allegations, findings of fact, and conclusions of law contained herein.
4. Surry consents to venue in the Circuit Court of the City of Richmond for any civil action taken to enforce the terms of this Order.
5. Surry declares it has received fair and due process under the Administrative Process Act and the State Water Control Law and it waives the right to any hearing or other administrative proceeding authorized or required by law or regulation, and to any judicial review of any issue of fact or law contained herein. Nothing herein shall be construed as a waiver of the right to any administrative proceeding for, or to judicial review of, any action taken by the Board to modify, rewrite, amend, or enforce this Order.
6. Failure by Surry to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or the Director as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.
7. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.
8. Surry shall be responsible for failure to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other occurrence. Surry shall show that such circumstances were beyond its control and not due to a lack of good faith or diligence on its part. Surry shall notify the DEQ Regional Director verbally within 24 hours and in writing within three business days when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of the Order. Such notice shall set forth:
  - a. the reasons for the delay or noncompliance;
  - b. the projected duration of any such delay or noncompliance;
  - c. the measures taken and to be taken to prevent or minimize such delay or noncompliance; and
  - d. the timetable by which such measures will be implemented and the date full compliance will be achieved.

Failure to so notify the Regional Director verbally within 24 hours and in writing within three business days, of learning of any condition above, which the Surry intends to assert will result in the impossibility of compliance, shall constitute a waiver of any claim to inability to comply with a requirement of this Order.

9. This Order is binding on the parties hereto, their successors in interest, designees and assigns, jointly and severally.
10. This Order shall become effective upon execution by both the Director or his designee and Surry. Nevertheless, Surry agrees to be bound by any compliance date which precedes the effective date of this Order.
11. This Order shall continue in effect until:
  - a. Surry petitions the Director or his designee to terminate the Order after it has completed all of the requirements of the Order and the Director or his designee approves the termination of the Order; or
  - b. the Director or Board terminates the Order in his or its sole discretion upon 30 days' written notice to Surry.
- Termination of this Order, or any obligation imposed in this Order, shall not operate to relieve Surry from its obligation to comply with any statute, regulation, permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.
12. Any plans, reports, schedules or specifications attached hereto or submitted by Surry and approved by the Department pursuant to this Order are incorporated into this Order. Any non-compliance with such approved documents shall be considered a violation of this Order.
13. The undersigned representative of Surry certifies that he or she is a responsible official authorized to enter into the terms and conditions of this Order and to execute and legally bind Surry to this document. Any documents to be submitted pursuant to this Order shall also be submitted by a responsible official of Surry.
14. This Order constitutes the entire agreement and understanding of the parties concerning settlement of the violations identified in Section C of this Order, and there are no representations, warranties, covenants, terms or conditions agreed upon between the parties other than those expressed in this Order.
15. By its signature below, Surry voluntarily agrees to the issuance of this Order.

Consent Order

Town of Surry; VPDES Permit No. VA0061646

Page 9 of 12

And it is so ORDERED this 25<sup>th</sup> day of June, 2010.



Michael P. Murphy, Regional Director  
Department of Environmental Quality

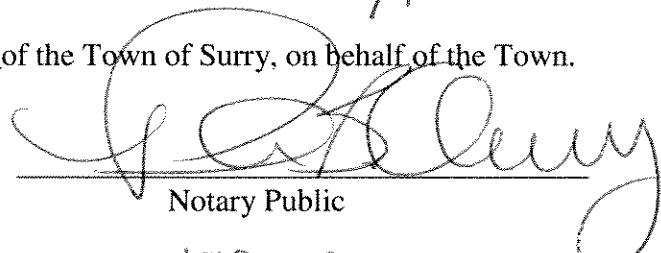
The Town of Surry voluntarily agrees to the issuance of this Order.

Date: 4/15/2010 By: Will M. Gauthier, Mayor  
(Person) (Title)

Commonwealth of Virginia

City/County of Surry

The foregoing document was signed and acknowledged before me this 15<sup>th</sup> day of  
April, 2010, by Will M. Gauthier, Sr. who is  
Mayor of the Town of Surry, on behalf of the Town.



Notary Public  
172412  
Registration No.

My commission expires: 7/3/10

Notary seal: PAMELA B. OWNEY  
Notary Public  
Commonwealth of Virginia  
No. 172412  
My Commission Expires 7/3/10

## **APPENDIX A** **SCHEDULE OF COMPLIANCE**

1. The Town of Surry must raise revenue for an upgrade to the Facility to meet Permit effluent limits. The Town shall be deemed to be raising upgrade project funds to the limit of its financial capability if the following criteria are met:
  - a. At least annually the Town adjusts its sewer rates so that within four years of the effective date of this Order:
    - i.) The annual sewer bill for residential customers (i.e. 7 ccf of average monthly use) will be at least 1.25% of median household income<sup>1</sup>; and
    - ii.) The sewer volume rate for customers identified as industrial users in the Town's utility billing records will equal the rate charged to the Town's residential customers.
  - b. The Town annually seeks grant or other funding for a Facility upgrade from all applicable federal and state sources.

### DMR Exceedances

2. **No later than October 1, 2010**, Surry shall submit to DEQ, for review and approval, a detailed corrective action plan (CAP) addressing how Surry will achieve consistent compliance with all effective Permit effluent limits. The CAP must be accompanied by an application for a Permit modification for flow expansion and include a schedule of implementation and a funding plan. Upon DEQ approval the corrective action plan and schedule will become a part of and enforceable under the terms of this Order. Surry shall provide any DEQ-requested information or modifications to the plan in accordance with the terms or deadlines of the request.
3. **No later than October 1, 2010**, Surry shall submit to DEQ, a study plan with a schedule of implementation for the evaluation and reduction of inflow and infiltration (I&I) in the collection system of the Plant. The study plan shall include a flow monitoring program designed for collecting wastewater flow data for different areas in the collection system during dry-weather and wet-weather flow conditions. The schedule, upon Department approval, shall be incorporated into and become an enforceable part of this Order.
4. **No later than June 1, 2011**, submit to the Department the results of the I&I study plan in Appendix A 3 above. This submittal shall include a base map of the collection

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<sup>1</sup> As reflected in the 2000 and any subsequent census. In the years between each census, the median household income (MHI) shall be adjusted based on the percent increase in the consumer price index— all urban consumers U.S. city average (CPI-U) for that year.

system, results of the flow monitoring, records of the collection system inspections and a prioritized list, with a schedule of rehabilitation work. The schedule, upon Department approval, shall be incorporated into and become an enforceable part of this Order.

5. **Upon Department approval** of the I&I rehabilitation work in Appendix A 4 above, immediately implement the sewer collection system rehabilitation work.
6. Surry must complete corrective action in accordance with the Department approved corrective action plan and schedule, or DEQ-approved modifications thereto, as expeditiously as possible, but **no later than March 1, 2012**.
7. Surry must submit a final report documenting completion of corrective action, in accordance with the corrective action plan, within 30 days of completion of corrective action but **no later than April 1, 2012**.

#### **REPORTING**

8. Surry must immediately comply with the provisions of the Permit with respect to monitoring, recordkeeping and reporting requirements.

#### **DEQ Contact**

Unless otherwise specified in this Order, the Town of Surry shall submit all requirements of Appendix A of this Order to:

**Frank Lupini  
Enforcement Specialist  
VA DEQ –Piedmont Regional Office  
4949A Cox Road,  
Glen Allen, Virginia 23060  
[Frank.Lupini@deq.virginia.gov](mailto:Frank.Lupini@deq.virginia.gov)**

**APPENDIX B**  
**INTERIM EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

From the effective date of this Order until completion of the corrective action requirements contained in Appendix A, but no later than June 1, 2012, and in accordance with the approved schedule for such action Town of Surry shall monitor and limit the discharge from Outfall No. 001 of the Facility in accordance with VPDES Permit Number VA0061646, except as specified below. These interim limits shall retroactively apply, if applicable, as of the first day of the month in which this Order becomes effective.

These requirements shall be construed in light of the Regulation.

Parameter Description	Parameter Limits			
	Monthly Average		Weekly Average	
Total Recoverable Copper	19 µg/L		19 µg/L	
TKN	4.0 mg/L	0.91 kg/day	5.3 mg/L	1.2 kg/day
CBOD	*	*	*	*

\* With respect to CBOD, the parties acknowledge that during the period of corrective action implementation, Surry may experience additional violations. Accordingly, pending completion of the Department approved corrective action plan, Surry must operate the facility in a manner that produces the lowest possible CBOD concentration of which it is capable, in order to minimize such additional violations and minimize potential impacts to water quality.

Attachment I: Stream Sanitation Memorandum (4/20/1988)

**MEMORANDUM****State Water Control Board**

2111 North Hamilton Street

P. O. Box 11143

Richmond, VA. 23230

**Subject:** Proposed Effluent Limits for Discharges of Town of Surry STP and Surry Village Apartment, Surry County, to UT to Dark Swamp, to Gray Creek to James River, James River Basin

**To:** Martin Ferguson, via Tom D. Modena

**From:** D.X.Ren 

**Date:** April 20, 1988

**Copies:** Bob Ehrhart, File

The modeling efforts for discharges of Town of Surry, STP and Surry Village Apt. were made on Dec. 19, 1980 and March 8, 1983 respectively. The approved effluent limits for these two discharges are:

**Town of Surry  
STP**

-----  
Q= 0.06 MGD  
BOD5=14.0 mg/l  
(summer & spring)  
BOD5=30.0 mg/l  
(fall & winter)  
TSS= 30.0 mg/l  
DO = 6.3 mg/l

**Surry Village  
Apt.**

-----  
Q= 0.01 MGD  
BOD5= 9.0 mg/l  
TSS =30.0 mg/l  
DO =6.5 mg/l

The site inspection conducted by PRO on April 14, 1988 indicated that these discharges are just 0.1-0.3 mile away from Dark Swamp. Updating the current effluent limits will be helpful for maintaining the swamp water quality. Based on this consideration, the following swamp standard effluent limits are proposed :

**Town of Surry  
STP**

-----  
Q= 0.06 MGD  
BOD5=10.0 mg/l  
TSS = 10.0 mg/l  
TKN = 3.0 mg/l  
DO = 3.0 mg/l  
Cl<sub>2</sub> = 0.011mg/l

**Surry Village  
Apt.**

-----  
Q= 0.01 MGD  
BOD5= 9.0 mg/l

If you have any question concerning this proposal, please let me know.

Attachment J: 2006 Permit MSTRANTI and  
Copper/Zinc limitation development

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Town of Surry STP

Permit No.: VA0061646

Receiving Stream: UT Dark Swamp

Version: OWP Guidance Memo 00-2011 (8/24/00)

## Stream Information

Parameter	Background Conc.	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	--	--	na	2.7E+03	--	--	na	2.7E+03	--	--	--	--	--	--	--	2.7E+03
Acrolein	0	--	--	na	7.8E+02	--	--	na	7.8E+02	--	--	--	--	--	--	--	7.8E+02
Acrylonitrile <sup>c</sup>	0	--	--	na	6.6E+00	--	--	na	6.6E+00	--	--	--	--	--	--	--	6.6E+00
Aldrin <sup>c</sup>	0	3.0E+00	--	na	1.4E-03	3.0E+00	--	na	1.4E-03	--	--	--	--	--	3.0E+00	--	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	5.40E+00	9.89E-01	na	--	5.4E+00	9.9E-01	na	--	--	--	--	--	--	5.4E+00	9.9E-01	na
Ammonia-N (mg/l) (High Flow)	0	5.40E+00	1.71E+00	na	--	5.4E+00	1.7E+00	na	--	--	--	--	--	--	5.4E+00	1.7E+00	na
Anthracene	0	--	--	na	1.1E+05	--	--	na	1.1E+05	--	--	--	--	--	--	--	1.1E+05
Antimony	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	3.4E+02	1.5E+02	na
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--
Benzene <sup>c</sup>	0	--	--	na	7.1E+02	--	--	na	7.1E+02	--	--	--	--	--	--	--	7.1E+02
Benzidine <sup>c</sup>	0	--	--	na	5.4E+03	--	--	na	5.4E+03	--	--	--	--	--	--	--	5.4E+03
Benzo (a) anthracene <sup>c</sup>	0	--	--	na	4.9E+01	--	--	na	4.9E+01	--	--	--	--	--	--	--	4.9E+01
Benzo (b) fluoranthene <sup>c</sup>	0	--	--	na	4.9E+01	--	--	na	4.9E+01	--	--	--	--	--	--	--	4.9E+01
Benzo (k) fluoranthene <sup>c</sup>	0	--	--	na	4.9E+01	--	--	na	4.9E+01	--	--	--	--	--	--	--	4.9E+01
Benzo (a) pyrene <sup>c</sup>	0	--	--	na	4.9E+01	--	--	na	4.9E+01	--	--	--	--	--	--	--	4.9E+01
Bis2-Chloroethyl Ether	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	1.4E+01
Bromotform <sup>c</sup>	0	--	--	na	1.7E+05	--	--	na	1.7E+05	--	--	--	--	--	--	--	1.7E+05
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	5.2E+03	--	--	--	--	--	--	--	3.6E+03
Cadmium	0	8.6E-01	3.9E-01	na	--	8.6E-01	3.9E-01	na	--	--	--	--	--	--	8.6E-01	3.9E-01	na
Carbon Tetrachloride <sup>c</sup>	0	--	--	na	4.4E+01	--	--	na	4.4E+01	--	--	--	--	--	--	--	4.4E+01
Chlordane <sup>c</sup>	0	2.4E+00	4.3E-03	na	2.2E+02	2.4E+00	4.3E-03	na	2.2E+02	--	--	--	--	2.4E+00	4.3E-03	na	2.2E+02
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	8.6E+05	2.3E+05	na
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	1.9E+01	1.1E+01	na
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	2.1E+04

Parameter	Conc.	Water Quality Criteria	Wasteload Allocations	Antidegradation Baseline	Antidegradation Allocations	Most Limiting Allocations
Mean Hardness (as CaCO <sub>3</sub> ) =	26 mg/L	0 MGD	Annual - 1Q10 Mix =	100 %	--	--
90% Temperature (Annual) =	23 deg C	0 MGD	-7Q10 Mix =	100 %	--	--
90% Temperature (Wet season) =	deg C	0 MGD	-3Q10 Mix =	100 %	--	--
90% Maximum pH =	8.23 SU	MGD	Wet Season - 1Q10 Mix =	%	--	--
10% Maximum pH =	7.49 SU	MGD	-30Q10 Mix =	%	--	--
Tier Designation (1 or 2) =	1	0 MGD	Discharge Flow =	10% Maximum pH =	0.06 MGD	0.06 MGD
Public Water Supply (PWS) Y/N? =	n	0 MGD		90% Maximum pH =	8.23 SU	8.23 SU
Trout Present Y/N? =	y	0 MGD		90% Temp (Wet season) =	7.49 SU	7.49 SU
Early Life Stages Present Y/N? =	y	0 MGD		90% Temp (Annual) =	23 deg C	23 deg C

Stream Flows

1Q10 (Annual) =	0 MGD
7Q10 (Annual) =	0 MGD
30Q10 (Annual) =	0 MGD
1Q10 (Wet season) =	MGD
30Q10 (Wet season) =	MGD
3Q05 =	0 MGD
Harmonic Mean =	0 MGD
Annual Average =	0 MGD

Mixing Information

Annual - 1Q10 Mix =	100 %
-7Q10 Mix =	100 %
-30Q10 Mix =	100 %
Wet Season - 1Q10 Mix =	%
-30Q10 Mix =	%

Effluent Information

Mean Hardness (as CaCO <sub>3</sub> ) =	26 mg/L
90% Temp (Annual) =	90% Temp (Wet season) =
90% Maximum pH =	90% Maximum pH =
10% Maximum pH =	10% Maximum pH =
Tier Designation (1 or 2) =	Tier Designation (1 or 2) =
Public Water Supply (PWS) Y/N? =	Public Water Supply (PWS) Y/N? =
Trout Present Y/N? =	Trout Present Y/N? =
Early Life Stages Present Y/N? =	Early Life Stages Present Y/N? =

Significant Data Application

26 mg/L	23 deg C	deg C
8.23 SU	7.49 SU	7.49 SU
0.06 MGD	0.06 MGD	0.06 MGD



Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	na	2.9E+04	--	na	--	--	--	--	na	2.9E+04
Fluoranthene	0	--	--	na	3.7E+02	--	na	3.7E+02	--	na	--	--	--	--	na	3.7E+02
Fluorene	0	--	--	na	1.4E+04	--	na	1.4E+04	--	na	--	--	--	--	na	1.4E+04
Foaming Agents	0	--	--	na	--	--	na	--	--	na	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	na	1.0E-02	--	na	--	--	--	--	na	--
Heptachlor	0	5.2E-01	3.8E-03	na	2.1E-03	5.2E-01	3.8E-03	na	2.1E-03	--	--	--	--	--	5.2E-01	3.8E-03
Heptachlor Epoxide <sup>c</sup>	5.2E-01	3.8E-03	na	1.1E-03	5.2E-01	3.8E-03	na	1.1E-03	--	--	--	--	--	--	5.2E-01	3.8E-03
Hexachlorobenzene <sup>c</sup>	0	--	--	na	7.7E-03	--	na	7.7E-03	--	na	--	--	--	--	na	7.7E-03
Hexachlorobutadiene <sup>c</sup>	0	--	--	na	5.0E-02	--	na	5.0E-02	--	na	--	--	--	--	na	5.0E+02
Hexachlorocyclohexane	0	--	--	na	1.3E-01	--	na	1.3E-01	--	na	--	--	--	--	na	1.3E-01
Alpha-BHC <sup>c</sup>	0	--	--	na	4.6E-01	--	na	4.6E-01	--	na	--	--	--	--	na	4.6E-01
Beta-BHC <sup>c</sup>	0	--	--	na	9.5E-01	--	na	9.5E-01	--	na	--	--	--	--	na	9.5E-01
Hexachlorocyclohexane	0	--	--	na	6.3E-01	--	na	6.3E-01	--	na	--	--	--	--	na	6.3E-01
Gamma-BHC <sup>c</sup> (Lindane)	0	--	--	na	1.7E-04	--	na	1.7E-04	--	na	--	--	--	--	na	1.7E+04
Hexachlorocyclopentadiene	0	--	--	na	8.9E+01	--	na	8.9E+01	--	na	--	--	--	--	na	8.9E+01
Hexachloroethane <sup>c</sup>	0	--	--	na	2.0E+00	--	na	2.0E+00	--	na	--	--	--	--	2.0E+00	na
Hydrogen Sulfide	0	--	--	na	--	--	na	--	--	na	--	--	--	--	--	--
Indeno (1,2,3-cd) pyrene <sup>c</sup>	0	--	--	na	4.9E-01	--	na	4.9E-01	--	na	--	--	--	--	na	4.9E-01
Iron	0	--	--	na	--	--	na	--	--	na	--	--	--	--	--	--
Isophorone <sup>c</sup>	0	--	--	na	2.6E+04	--	na	2.6E+04	--	na	--	--	--	--	na	2.6E+04
Kepone	0	--	0.0E+00	na	--	--	na	0.0E+00	--	na	--	--	--	--	0.0E+00	na
Lead	0	2.1E+01	2.4E+00	na	--	2.1E+01	2.4E+00	na	--	na	--	--	--	--	2.1E+01	2.4E+00
Malaathion	0	--	--	na	--	--	na	--	--	na	--	--	--	--	--	--
Manganese	0	--	--	na	--	--	na	--	--	na	--	--	--	--	--	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.4E+00	7.7E-01	na	5.1E-02	--	--	--	--	--	1.4E+00	7.7E-01
Methyl Bromide	0	--	--	na	4.0E+03	--	na	4.0E+03	--	na	--	--	--	--	4.0E+03	--
Methoxychlor	0	--	3.0E-02	na	--	--	na	3.0E-02	--	na	--	--	--	--	3.0E-02	na
Mirex	0	--	0.0E+00	na	--	--	na	0.0E+00	--	na	--	--	--	--	0.0E+00	na
Monochlorobenzene	0	--	--	na	2.1E-04	--	na	2.1E-04	--	na	--	--	--	--	--	2.1E+04
Nickel	0	5.8E-01	6.5E+00	na	4.6E+03	5.8E+01	6.5E+00	na	4.6E+03	--	--	--	--	--	5.8E+01	6.5E+00
Nitrate (as N)	0	--	--	na	--	--	na	--	--	na	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E-03	--	na	1.9E-03	--	na	--	--	--	--	na	1.9E+03
N-Nitrosodimethylamine <sup>c</sup>	0	--	--	na	8.1E+01	--	na	8.1E+01	--	na	--	--	--	--	8.1E+01	--
N-Nitrosodiphenylamine <sup>c</sup>	0	--	--	na	1.6E+02	--	na	1.6E+02	--	na	--	--	--	--	1.6E+02	--
N-Nitrosodi-n-propylamine <sup>c</sup>	0	--	--	na	1.4E+01	--	na	1.4E+01	--	na	--	--	--	--	na	1.4E+01
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	na	--	--	--	--	6.5E-02	1.3E-02
PCB-1016	0	--	1.4E-02	na	--	--	na	1.4E-02	--	na	--	--	--	--	1.4E-02	na
PCB-1221	0	--	1.4E-02	na	--	--	na	1.4E-02	--	na	--	--	--	--	1.4E-02	na
PCB-1232	0	--	1.4E-02	na	--	--	na	1.4E-02	--	na	--	--	--	--	1.4E-02	na
PCB-1242	0	--	1.4E-02	na	--	--	na	1.4E-02	--	na	--	--	--	--	1.4E-02	na
PCB-1248	0	--	1.4E-02	na	--	--	na	1.4E-02	--	na	--	--	--	--	1.4E-02	na
PCB-1254	0	--	1.4E-02	na	--	--	na	1.4E-02	--	na	--	--	--	--	1.4E-02	na
PCB-1260	0	--	1.4E-02	na	--	--	na	1.4E-02	--	na	--	--	--	--	1.4E-02	na
PCB Total <sup>c</sup>	0	--	--	na	1.7E-03	--	na	1.7E-03	--	na	--	--	--	--	--	1.7E-03

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PMS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol <sup>c</sup>	0	1.4E+01	1.1E+01	na	8.2E-01	1.4E+01	1.1E+01	na	8.2E-01	--	--	--	--	--	--	--	1.4E+01	1.1E+01	na	8.2E+01	
Phenol	0	--	--	na	4.6E-06	--	--	na	4.6E-06	--	--	--	--	--	--	--	--	--	--	4.6E+06	
Pyrene	0	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	1.1E+04	
Radionuclides $^{90}\text{Sr}/\text{I}$ except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	--	--
Gross Alpha Activity (mrem/yr)	0	--	--	na	1.5E+01	--	--	na	1.5E+01	--	--	--	--	--	--	--	--	--	--	1.5E+01	
Stronitum-90	0	--	--	na	4.0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	4.0E+00	
Tritium	0	--	--	na	2.0E+04	--	--	na	2.0E+04	--	--	--	--	--	--	--	--	--	--	8.0E+00	
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	2.0E+01	5.0E+00	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	2.0E+04	
Silver	0	3.4E-01	--	na	--	3.4E-01	--	na	--	--	--	--	--	--	--	--	2.0E+01	5.0E+00	na	1.1E+04	
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	3.4E-01	--	na	--	
1,1,2,2-Tetrachloroethane <sup>c</sup>	0	--	--	na	1.1E+02	--	--	na	1.1E+02	--	--	--	--	--	--	--	--	--	--	1.1E+02	
Tetrachloroethylene <sup>c</sup>	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	8.9E+01	
Thallium	0	--	--	na	6.3E+00	--	--	na	6.3E+00	--	--	--	--	--	--	--	--	--	--	6.3E+00	
Toluene	0	--	--	na	2.0E+05	--	--	na	2.0E+05	--	--	--	--	--	--	--	--	--	--	2.0E+05	
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	--	
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E+04	na	7.5E-03	7.3E-01	2.0E+04	na	7.5E-03	--	--	--	--	--	--	--	7.3E-01	2.0E+04	na	7.5E-03	
Tributyltin	0	4.6E-01	6.3E+02	na	--	4.6E-01	6.3E+02	na	--	--	--	--	--	--	--	--	4.6E-01	6.3E+02	na	--	
1,2,4-Trichlorobenzene	0	--	--	na	9.4E+02	--	--	na	9.4E+02	--	--	--	--	--	--	--	--	--	--	9.4E+02	
1,1,2-Trichloroethane <sup>c</sup>	0	--	--	na	4.2E+02	--	--	na	4.2E+02	--	--	--	--	--	--	--	--	--	--	4.2E+02	
Trichloroethylene <sup>c</sup>	0	--	--	na	8.1E+02	--	--	na	8.1E+02	--	--	--	--	--	--	--	--	--	--	8.1E+02	
2,4,6-Trichlorophenol <sup>c</sup>	0	--	--	na	6.5E+01	--	--	na	6.5E+01	--	--	--	--	--	--	--	--	--	--	6.5E+01	
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	6.1E+01	--	--	na	6.1E+01	--	--	--	--	--	--	--	--	--	--	--	
Vinyl Chloride <sup>c</sup>	0	3.7E+01	3.8E+01	na	6.9E+04	3.7E+01	3.8E+01	na	6.9E+04	--	--	--	--	--	--	--	3.7E+01	3.8E+01	na	6.9E+04	
Zinc	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

## Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for industries and design flow for Municipal
- Metal measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information. Antidegradation WLAs are based upon a complete mix.
- Antidegradation Baseline =  $(0.25(\text{WCC} - \text{background conc.}) + \text{background conc.})$  for acute and chronic  
 $= (0.1(\text{WCC} - \text{background conc.}) + \text{background conc.})$  for human health
- WLAs established at the following stream flows: Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate.

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Metal	Target Value (SSTV)
Antimony	4.3E+03
Arsenic	9.0E+01
Barium	na
Cadmium	2.4E+01
Chromium III	1.5E+01
Chromium VI	6.4E+00
Copper	1.5E+00
Iron	na
Lead	1.5E+00
Manganese	na
Mercury	5.1E+02
Nickel	3.9E+00
Selenium	3.0E+00
Silver	1.4E+01
Zinc	1.5E+01

changes from draft J: 1. Endrin Aldehyde criteria corrected

Fact Sheet  
Town of Surry STP

**Copper (Dissolved)**

Facility = Town of Surry  
Chemical = Copper  
Chronic averaging period = 4  
WLAA = 3.8  
WLAC = 2.8  
Q.L. = 1  
# samples/mo. = 1  
# samples/wk. = 1

Summary of Statistics:

# observations = 24  
Expected Value = 4.69971  
Variance = 17.0121  
C.V. = 0.877625  
97th percentile daily values = 15.0475  
97th percentile 4 day average = 9.47620  
97th percentile 30 day average= 6.11618  
# < Q.L. = 2  
Model used = delta lognormal

A limit is needed based on Acute Toxicity  
Maximum Daily Limit = 3.8  
Average Weekly limit = 3.8  
Average Monthly LImit = 3.8

The data are:

12, 33, 7  
7, 5, 4  
5, 7, 5  
5, 2, 2  
2, 2, 3  
2, 0, 3  
2, 3, 4  
2, 2, 0

Note: Values entered as <QL are represented as 0.  
Data were submitted with DMR data from 2001 through 2003.

As indicated, the copper limitations are 3.8  $\mu\text{g/L}$ .  
The facility has been allowed a Schedule of Compliance to meet the more stringent copper limitations.

**Zinc (Dissolved)**

Facility = Town of Surry  
Chemical = Zinc  
Chronic averaging period = 4  
WLAA = 37  
WLAC = 38  
Q.L. = 1  
# samples/mo. = 1  
# samples/wk. = 1

Summary of Statistics:

# observations = 2  
Expected Value = 17  
Variance = 104.04  
C.V. = 0.6  
97th percentile daily values = 41.3680  
97th percentile 4 day average = 28.2844  
97th percentile 30 day average= 20.5029  
# < Q.L. = 0  
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity  
Maximum Daily Limit = 37  
Average Weekly limit = 37  
Average Monthly LImit = 37

The data are:

19  
15

Note: These data were sampled on November 23, 1998 and October 7, 1999, respectively, and submitted with the DMRs.

As indicated, the zinc limitations are 37  $\mu\text{g/L}$ . The facility has been allowed a Schedule of Compliance to meet the new zinc limitations.